U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA [illegible]13—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number MH 0977

(1) Case Number: 2903

Sample Site Name/Code:

Pratt Property / Columbia Cleaners

PP-TH-8

(2) SAMPLE CONCENTRATION (Check One)

X Low Concentration

___ Medium Concentration

(3) SAMPLE MATRIX (Check One)

X Water

___ Soil/Sediment

(4) Ship To: Cambridge Analytical Assoc.
222 Arsenal Street
Watertown, MASS 02172

Attn: Keith Haustecht

Transfer Ship To:

(5) Sampling Office: Ohio Dept. of Health

Sampling Personnel:

(Name) Scott H Winters

(Phone) (303) 320-8538 or 1683

Sampling Date:

(Begin) 6/11/84 (End) 6/13/84

(6) Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 6/14/84

Airbill Number: 865716095

(7) Sample Description: (Check One)

___ Surface Water

X Ground Water

___ Leachate

___ Mixed Media

___ Solids

___ Other _____ (specify)

MATCHES ORGANIC SAMPLE NO. 41602

(8) Mark Volume Level On Sample Bottle

Check Analysis required

X Task 1 & 2

___ Task 3 Ammonia
Sulfide
Cyanide

Bottle lot # 34029082

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number: MH 0978

① Case Number: 2903
Sample Site Name/Code: Pratt Property/Columbine Landfill
PR-T[illegible]-B

② SAMPLE CONCENTRATION (Check One)
X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)
X Water
___ Soil/Sediment

④ Ship To: Cambridge Analytical Assoc
2292 Arsenal Street
Watertown, MASS 02172
Attn: Keith Hausknecht
Transfer Ship To:

⑤ Sampling Office: Colo Dep [illegible]
Sampling Personnel:
(Name) Scott H. Windes
(Phone) (303) [illegible]
Sampling Date:
(Begin) 6/13/84 (End) 6/13/84

⑥ Shipping Information:
Name Of Carrier: [illegible]
Date Shipped: 6/14/84
Airbill Number: 865716095

⑦ Sample Description: (Check One)
___ Surface Water
X Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other ______ (specify)

MATCHES ORGANIC SAMPLE NO. H1603

⑧ Mark Volume Level On Sample Bottle
Check Analysis required
X Task 1 & 2
___ Task 3 Ammonia
Sulfide
Cyanide

[illegible] 1 of [illegible] 3402008 2

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA 22313—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number MH 0980

(1) Case Number: 719-03

Sample Site Name/Code:

Pratt Property / Columbine Landfill

PP-SW-2

(2) SAMPLE CONCENTRATION (Check One)

X Low Concentration

___ Medium Concentration

(3) SAMPLE MATRIX (Check One)

X Water

___ Soil/Sediment

(4) Ship To:

Cambridge Analytical Inc
222 Arsenal Street
Watertown, Mass 02172

Attn: Keith Hausknecht

Transfer Ship To:

(5) Sampling Office: Colo Dept of Health

Sampling Personnel:

(Name) Scott Winters

(Phone) (303) 320-8035 ext 2

Sampling Date:

(Begin) 6/13/84 (End) 6/13/84

(6) Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 6/14/84

Airbill Number: 565716695

(7) Sample Description: (Check One)

X Surface Water

___ Ground Water

___ Leachate

___ Mixed Media

___ Solids

___ Other _____ (specify)

MATCHES ORGANIC SAMPLE NO. MH 1605

(8) Mark Volume Level On Sample Bottle

Check Analysis required

X Task 1 & 2

___ Task 3 Ammonia
Sulfide
Cyanide

Bottle lot # 240200x2

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA 13—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number MH 0981

(1) Case Number: 2903

Sample Site Name/Code:

Platt Property / Columbia County II

PP- TH - 6

(2) SAMPLE CONCENTRATION

(Check One)

X Low Concentration

___ Medium Concentration

(3) SAMPLE MATRIX

(Check One)

X Water

___ Soil/Sediment

(4) Ship To:

Cambridge Analytical Assoc.

222 Arsenal Street

Watertown, MASS 02172

Attn: Keith Hauknecht

Transfer Ship To:

(5) Sampling Office: Geo Dyn Eng

Sampling Personnel:

(Name) Scott Waters

(Phone) [illegible]

Sampling Date:

(Begin) 6/14/84 (End) 6/14/84

(6) Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 6/14/84

Airbill Number: 865716095

(7) Sample Description:

(Check One)

V Surface Water

___ Ground Water

___ Leachate

___ Mixed Media

___ Solids

___ Other ___ (specify)

MATCHES ORGANIC SAMPLE NO. H 1606

(8) Mark Volume Level On Sample Bottle

Check Analysis required

X Task 1 & 2

___ Task 3 Ammonia

Sulfide

Cyanide

Bottle lot # 34 02 00 32

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA [illegible]3—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number MH 0982

(1) Case Number: 2903

Sample Site Name/Code:

Pratt Property / Columbine

Level B: 1

PP-TH-60

(2) SAMPLE CONCENTRATION

(Check One)

X Low Concentration

___ Medium Concentration

(3) SAMPLE MATRIX

(Check One)

X Water

___ Soil/Sediment

(4) Ship To:

Cambridge Analytical Assoc
222 Arsenal Street
Watertown, MASS 02172

Attn: Kim Hausknecht

Transfer Ship To:

(5) Sampling Office: Colo Dept of Health

Sampling Personnel:

(Name) Scott Winters

(Phone) 303 320-8333 ext 6353

Sampling Date: 6/14/84 SAW 6/14/84

(Begin) ~~5/31/84~~ (End) ~~5/31/84~~

(6) Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 6/14/84

Airbill Number: 865716095

(7) Sample Description: SAW

(Check One)

X Surface Water

X Ground Water

___ Leachate

___ Mixed Media

___ Solids

___ Other _____ (specify)

MATCHES ORGANIC SAMPLE NO. 1-16-07

(8) Mark Volume Level On Sample Bottle

Check Analysis required

X Task 1 & 2

___ Task 3 Ammonia

Sulfide

Cyanide

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA [illegible]13—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number MH 0979

(1) Case Number: 7908

Sample Site Name/Code:

Pratt Property/Columbine Country Club

PP-SW-1

(2) SAMPLE CONCENTRATION

(Check One)

___ Low Concentration

___ Medium Concentration

(3) SAMPLE MATRIX

(Check One)

X Water

___ Soil/Sediment

(4) Ship To:

Cambridge Analytical Assoc.
202 Arsenal Street
Watertown, MASS 02172

Attn: Keith Haviknecht

Transfer Ship To:

(5) Sampling Office: Colo Dept of Health

Sampling Personnel:

(Name) Scott Winters

(Phone) (303) 320-8333 ext 630

Sampling Date:

(Begin) 6/12/84 (End) 6/13/84

(6) Shipping Information:

Name Of Carrier: Federal Express

Date Shipped: 6/14/84

Airbill Number: 86571609 5

(7) Sample Description:

(Check One)

X Surface Water

___ Ground Water

___ Leachate

___ Mixed Media

___ Solids

___ Other ___ (specify)

MATCHES ORGANIC SAMPLE NO. H 1604

(8) Mark Volume Level On Sample Bottle

Check Analysis required

X Task 1 & 2

___ Task 3 Ammonia
Sulfide
Cyanide

Bottle lot # 3402082

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1601

① **Case Number:** 2203

Sample Site Name/Code: [illegible]

PP-TW-1

② **SAMPLE CONCENTRATION**
(Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX**
(Check One)

X Water
___ Soil/Sediment

④ **Ship To:** [illegible]

Attn: [illegible]

Transfer
Ship To:

⑤ **Regional Office:** [illegible]

Sampling Personnel: [illegible]
(Name)

[illegible]
(Phone)

Sampling Date: [illegible] — [illegible]
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 [illegible]
Water (VOA)	2	80 [illegible]
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ **Shipping Information**

Federal Express
Name of Carrier

6/14/84
Date Shipped:

[illegible]
Airbill Number:

⑧ **Sample Description**

___ Surface Water
X Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other (specify) ___

⑨ **Sample Location**

PP-TW-1

[illegible]

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

[illegible] traffic report # MH 5776

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1602

① **Case Number:** 2903

Sample Site Name/Code: [illegible]

PP-TH-8

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:** [illegible]

Attn: [illegible]

Transfer Ship To:

⑤ **Regional Office:** [illegible]

Sampling Personnel: [illegible]
(Name)

[illegible]
(Phone)

Sampling Date: 6/13/84 (Begin) 6/13/84 (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liters
Water (VOA)	2	80 ml
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ **Shipping Information**

[illegible]
Name of Carrier

6/14/84
Date Shipped:

[illegible]
Airbill Number:

⑧ **Sample Description**

___ Surface Water
X Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other (specify) ___

⑨ **Sample Location**

PP-TH-8

[illegible]

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matching inorganic traffic report # [illegible]

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number H 1603

① **Case Number:** 7903

Sample Site Name/Code:

DP-TH-B

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:**
Specific Corp
3911 Fondren
Suite 100
[illegible] TX 77063-582
Attn: [illegible]

Transfer
Ship To:

⑤ **Regional Office:** [illegible]

Sampling Personnel:
[illegible]
(Name)
(713) 320-[illegible]
(Phone)

Sampling Date:
6/13/84 6/13/84
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liters
Water (VOA)	2	80-2
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ **Shipping Information**

Federal Express
Name of Carrier

6/14/84
Date Shipped:

[illegible]
Airbill Number:

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
X Ground Water ___ Solids
___ Leachate ___ Other (specify) _____

⑨ **Sample Location**

DP-TH-B

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches inorganic traffic report # MH 0978

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1605

① **Case Number:** 2903

Sample Site Name/Code:

DP-SW-2

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:**

Spectrix Corp
3911 Fondren
Suite 100
[illegible] TX 77063-5121
Attn: [illegible]

Transfer Ship To:

⑤ **Regional Office:** [illegible]

Sampling Personnel:

Scott Waters
(Name)

303 370-[illegible]
(Phone)

Sampling Date:

6/13/89 6/13/89
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liters
Water (VOA)	2	80 ml
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ **Shipping Information**

Federal Express
Name of Carrier

6/14/89
Date Shipped:

[illegible]
Airbill Number:

⑧ **Sample Description**

X Surface Water ___ Mixed Media
___ Ground Water ___ Solids
___ Leachate ___ Other (specify) _____

⑨ **Sample Location**

DP-SW-2

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches traffic report # VNH0980

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1604

① Case Number: 2903

Sample Site Name/Code: [illegible]
[illegible]
PP - SW - 1

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

X Water
___ Soil/Sediment

④ Ship To:
Spectrix Corp
3911 Fondren
Suite 100
Houston TX 77063-5821
Attn: [illegible] Barr[illegible]

Transfer Ship To:

⑤ Regional Office: [illegible]

Sampling Personnel: Scott Winters (Name)

(303) 320-2333 ext 6333 (Phone)

Sampling Date: 6/13/84 (Begin) 6/13/84 (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liters
Water (VOA)	2	80 ml
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ Shipping Information

Federal Express
Name of Carrier

6/14/84
Date Shipped:

865 7/8[illegible]
Airbill Number:

⑧ Sample Description

X Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other (specify) ___

⑨ Sample Location

PP - SW - 1

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matching Inorganic Traffic Report # MH 0979

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1606

① **Case Number:** 7903

Sample Site Name/Code: [illegible]

PP-TH-6

② **SAMPLE CONCENTRATION**
(Check One)

x Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX**
(Check One)

x Water
___ Soil/Sediment

④ **Ship To:** Spectrix Corp
3911 Fondren
Suite 100
Houston, TX 77063-5???
Attn: Chris Barru

Transfer
Ship To:

⑤ **Regional Office:** [illegible]
Sampling Personnel: Scott Winter
(Name)
(803) 520-8303 [illegible]
(Phone)
Sampling Date: 6/14/94
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liter
Water (VOA)	2	80 ml
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ **Shipping Information**

Federal Express
Name of Carrier

6/14/94
Date Shipped:

[illegible]
Airbill Number:

⑧ **Sample Description**

x Surface Water
___ Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other (specify) ______

⑨ **Sample Location**

PP-TH-6 2407 3042
[illegible] Lot # 21017072

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

Matches inorganics traffic report MH 098

REGIONAL OFFICE FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, Virginia 22313—703/557-2490 • FTS/557-2490

ORGANICS TRAFFIC REPORT

Sample Number: H 1607

① Case Number: 2903

Sample Site Name/Code: [illegible]

PP-TH-60

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

X Water
___ Soil/Sediment

④ Ship To: [illegible] Corp
[illegible]
Suite 100
Houston, TX 77063-[illegible]

Attn: [illegible]

Transfer
Ship To:

⑤ Regional Office: [illegible]

Sampling Personnel: [illegible]
(Name)

[illegible]
(Phone)

Sampling Date: 6/14/84
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume
Water (Extractable)	4	4 liters
Water (VOA)	2	[illegible] ml
Soil/Sediment		
Water (Ext/VOA)		
Other		

⑦ Shipping Information

Federal Express
Name of Carrier

6/14/84
Date Shipped:

[illegible]
Airbill Number:

⑧ Sample Description

___ Surface Water
X Ground Water
___ Leachate
___ Mixed Media
___ Solids
___ Other (specify) ______

⑨ Sample Location

PP-TH-60 24023042
[illegible] 54017072

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

Matches inorganic traffic report # MH 0932

REGIONAL OFFICE FILE COPY

ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION 8
1860 Lincoln Street
Denver, Colorado 80295

PROJ. NO. 8496-01 ~~2903~~ | PROJECT NAME Case # 2903 Pratt Property / Columbine Landfill

SAMPLERS: (Signature) Scott Winters / Dennis C Hoffock

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 liter amber BNA	40 ml VOA volatiles					Traffic Report #	Tag #'s
PP-TH-B	6/13/84	1610		X	Test Hole # B		1						H-1603	8-9513, 9514, 9515, 9516
PP-SW-1	6/13/84	1635		X	Surface Water # 1		1						H-1604	8-9519, 9520, 9521, 9522
PP-SW-2	6/13/84	1700		X	Surface Water # 2		1						H-1605	8-9525, 9526, 9527, 9528
PP-TH-B	6/13/84	1610		X	Test Hole # B			2					~~H~~ H 1603	8-9517
PP-SW-1	6/13/84	1635		X	Surface Water # 1			2					H-1604	8-9523
PP-SW-2	6/13/84	1700		X	Surface Water # 2			2					H-1605	8-9529

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Scott Winters	06/14/84 1715	Federal Express			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined _____ Signature

8-0708

ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION 8
1860 Lincoln Street
Denver, Colorado 80295

PROJ. NO.: 8406-01

PROJECT NAME: Pratt Property / Columbine Landfill — Case # 2903

SAMPLERS: (Signature) Scott N. Winters, Dennis C. Hofbuhr

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 liter amber BNA's	40 ml VOA's					Traffic Report No.	REMARKS: Sample Tag #'s
PP-TH-6	6/14/88	1000		X	Test Hole -6		1						~~H 1606~~ ~~H 1607~~	8-9531, 9532, 9533, 9534
PP-TH-60	6/14/88	1000		X	Test Hole -60		1						H 1607	8-9537, 9538, 9539, 9540
PP-TH-6	6/14/88	1000		X	Test Hole -6			2					~~H 1606~~ ~~H 1607~~	8-9535
PP-TH-60	6/14/88	1000		X	Test Hole -60			2					H 1607	8-9541

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Scott N. Winters	06/14/88 1720	Federal Express			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined _____ Signature

8-0709

ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION 8
1860 Lincoln Street
Denver, Colorado 80295

PROJ. NO.: 8406-01

PROJECT NAME: Pratt Property / Columbine Landfill — Case # 2903

SAMPLERS: (Signature) Scott Winter, Dennis C. Hoback

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 liter Amber BNA	40 ml VOA					Traffic Report #'s	Sample tag #'s	REMARKS
PP-TH-1	6/13/84	1020		X	Test Hole - 1		4						H1601	8-9501, 9502, 9503, 9504	
PP-TH-8	6/13/84	1420		X	Test Hole - 8		4						H1602	8-9507, 9508, 9509, 95	
PP-TH-1	6/13/84	1020		X	Test Hole - 1			2					H1601	8-9505	
PP-TH-8	6/13/84	1420		X	Test Hole - 8			2					H1602	8-9511	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Scott H. Winter	6/14/84 1725	Federal Express			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined _____ Signature

8-0710

ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

REGION 8
1860 Lincoln Street
Denver, Colorado 80295

CHAIN OF CUSTODY RECORD

PROJ. NO.: 8406-01

PROJECT NAME: Pratt Property Columbine Landfill — Case # 2903

SAMPLERS: (Signature) Scott Winters, [signature]

NO. OF CONTAINERS

Analyses: 1 liter poly - metals; 4 liter amber BNA; 2 VOA [struck through]

REMARKS: Air Bill # 865716095

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 liter poly - metals						Traffic Report #	Sample Tag #
PP-TH-1	6/13/84	1000		X	Test Hole - 1		1						MH 0976	8 - 9506
PP-TH-8	6/13/84	1415		X	Test Hole - 8		1						MH 0977	8 - 9512
PP-TH-B	6/13/84	1710		X	Test Hole - B		1						MH 0978	8 - 9518
PP-SW-1	6/13/84	1735		X	Surface Water - 1		1						MH 0979	8 - 9524
PP-SW-2	6/13/84	1800		X	Surface Water - 2		1						MH 0980	8 - 9530
PP-TH-6	6/14/84	1000		X	Test Hole - 6		1						MH 0981	8 - 9536
PP-TH-60	6/14/84	1000		X	Test Hole - 60		1						MH 0982	8 - 9542

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Scott H. Winters	06/14/84 1720	Federal Express			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks

Split Samples: ☐ Accepted ☐ Declined ______ Signature

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

8-0711

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

PROJ. NO.	PROJECT NAME
	Columbine Landfill

SAMPLERS: (Signature) [signatures]

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1l poly						REMARKS
CLPP GW7	3/19/91	510		✓	CLPPGW7	1	✓						#8-98644
CLLFGW4	3/19/91	420		✓	CLLFGW4	1	✓						#8-98646 / 204A
CLPPGW1	3/19/91	1250		✓	CLPPGW1	1	✓						#8-98650 / Horst
CLPP GW2	3/19/91	1150		✓	CLPPGW2	1	✓						#8-98649 / Zahn
CLLF GW6	3/19/91	154		✓	CLLFGW6	1	✓						#8-98645 / GW7
CLSI MW6	3/19/91			✓	CLSIMW6	1	✓						#8-98647 / Rinsate HF
CLLF GW3	3/19/91	148		✓	CLLFGW3	1	✓						#8-98648 / G.W.1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	3.19.91 8pm				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined ________ Signature

R8 EPA-014B

8-09303

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

CHAIN OF CUSTODY RECORD

PROJ. NO.:

PROJECT NAME: COLUMBINE LANDFILL

SAMPLERS: *(Signature)* [signatures]

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	40ml glass vials	80oz amber glass					REMARKS (LABLE # / TAG #)
CLPP GW2	3/19/91	1150		✓	CLPPGW2	4	2	2					8-98605 HG798 / 8-98750; 8-98601
CLPP GW1	3/19/91	250		✓	CLPPGW1	4	2	2					HG799 / 8-98748; 8-98749; 8-986[illegible]
CLPP GW3	3/19/91	200		✓	CLPPGW3	4	2	2					HG794 / 8-98603; 8-98602; 8-98[illegible]

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
[signature]	3-19-91 8pm				
Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date/Time	Received for Laboratory by: *(Signature)*	Date/Time	Remarks

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined _______ Signature

R8 EPA-014B

8-09304

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
	Columbine, Erie Colorado

SAMPLERS: *(Signature)* Austin Buckingham

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	80 OZ AMBER GLASS	40 ml glass vial					REMARKS
													10.21.91 collected
HK813	10.21.91	1225p		✓	ZAHN SEMI-V	2	2						1225 pm
HK814	10.21.91	1227p		✓	ZAHN SEMI-V	2	2						1227 pm
HJ921	10.21.91	1150		✓	SHAMY SEMI-V	3	3						RANCH EGGS TRIPLICATE
HJ922	10.21.91	420p		✓	HORST SEMI-V	2	2						420 pm
HJ923	10.21.91	445p		✓	LAIDLAW SEMI-V	2	2						445 pm
HK815	10.21.91	830A		✓	VOA	2		2					830 AM

NOTE: two coolers
one w/ 4 samples bottles
one w/ 7 sample bottles

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Austin A. Buckingham	10.22.91 / 805A				

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date/Time	Received for Laboratory by: *(Signature)*	Date/Time	Remarks
		Johna [signature]	10.22.91 / 805	seals in tact, iced; Hand delivered; 2 containers

Split Samples: ☒ Accepted ☐ Declined [signature] Signature

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

R8 EPA-014B

8-09307

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

CHAIN OF CUSTODY RECORD

PROJ. NO.:

PROJECT NAME: Columbine Landfill

SAMPLERS: (Signature) [signatures]

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	40 ml. vial	80 oz amber glass					REMARKS
CLLF GW6	3/19/91	139		✓	CLLFGW6	4	2	2					HG792; 8-98611; 8-98610; 8-98607
CLSIMW 5	3/19/91	3		✓	CLSIMW5	2	2						HG827; 8-98612
CLPP GW7	3/19/91	510		✓	CLPPGW7	4	2	2					HG828; 8-98613; 8-98614; 8-98615
CLLF GW5	3/19/91	503		✓	CLLFGW5	2	2						HG793; 8-98608
CLSIMW 4	3/19/91	1045		✓	~~CLLFGW4~~ CLSIMW4	2	2						HG794; 8-98604
CLLF GW4	3/19/91	420		✓	CLLFGW4	5	2	3					HG795; 8-98619; 8-98616; 8-98617; 8-98618

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
A. Buckley	3.19.91 8pm				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined ______ Signature

R8 EPA-014B

8-09376

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

CHAIN OF CUSTODY RECORD

PROJ. NO. 16236

PROJECT NAME Columbine Landfill

SAMPLERS: (Signature) [signature] Aust Bucking

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS ANB	80 oz amber glass	40 ml glass vial	8 oz clear glass				REMARKS TAG # ANB
HJ918	4.18.91	1145		✓	CL.SI.MW1	~~3~~ 2	1						~~825~~ ~~825~~ 825155, 825156, ~~825157~~
HJ918	4.18.91	1141		✓	CL.SI.MW1	2		2					825153
HJ917	4.18.91	1120		✓	CL.SI.MW ~~18~~ 8	2		2					825154
HJ920	4.18.91	1325		✓	CL.SI.MW2B	ANB ~~2~~ 2		2					825152
HJ919	4.18.91	1250		✓	CL.SI.MW ~~X~~ 7	2							825151
HG829	4.18.91	1310		✓	CL.SI.SO.2	1			1				825158
HG797	4.18.91	~~1330~~ 1230	ANB	✓	CL.SI.SO.1	1			1				825159
											24?		
													HJ918 825157 broken prior to transport ANB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Aust Bucking	4.18.91 / 4pm				
Relinquished by: (Signature)	**Date/Time**	**Received by: (Signature)**	**Relinquished by: (Signature)**	**Date/Time**	**Received by: (Signature)**

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples: ☐ Accepted ☐ Declined ____________ Signature

R8 EPA-014B

8-09384

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

PROJ. NO.	PROJECT NAME
76256	Columbine Landfill

SAMPLERS: *(Signature)* Austin Buckingham

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 Liter Bottle	8 oz. container					REMARKS
MW-1	4/18/91	1135		X	MHP 916	1	1						P-25160
SD-1	4/18/91	1221		X	MHP 914	1		1					P-25161
SD-2	4/18/91	1315		X	MHP 918	1		1					P-25162

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Austin Buckingham	4/18/91 1250				
Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date/Time	Received for Laboratory by: *(Signature)*	Date/Time	Remarks	

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

Split Samples:
☐ Accepted ☐ Declined _____ Signature

R8 EPA-014B

8-09385

U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Services Division

CHAIN OF CUSTODY RECORD

REGION VIII, ONE DENVER PLACE
999 18TH STREET
DENVER, CO. 80202-2413

PROJ. NO. | PROJECT NAME: Columbine Landfill

SAMPLERS: (Signature) Aust Ducking, Steven A. Gunderson

STAT. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 l. tef poly	1/4 l. red poly	REMARKS
HJ918A	4-18-91	1200N		✓	CL-51-MW-1	1	✓		No preservative #911713
HJ918B	4-18-91	1200N		✓	CL-51-MW-1	1		✓	preserve-sulfuric acid #911713
HJ918C	4-18-91	1200N		✓	CL-51-MW-1	1		✓	preserve-nitric acid #911713
HJ920A	4-18-91	130p		✓	CL-51-MW-2B	1	✓		No preservative #911714
HJ920B	4-18-91	130p		✓	CL-51-MW-2B	1		✓	preserve sulfuric acid #911714
HJ920C	4-18-91	130p		✓	CL-51-MW-2B	1		✓	preserve nitric acid #911714

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Aust Ducking	4-18-91 1425	D. Alexander			
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

RECEIVED
JUN 17 1991
HAZARDOUS MATERIALS MANAGEMENT

Split Samples: ☐ Accepted ☐ Declined _____ Signature

Distribution: Original Accompanies Shipment; First Copy to Coordinator Field Files; Second Copy to Representative of Inspected Facility

R8 EPA-014B

8-09391

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 16040 | SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER NPLD O&M OTHER
NON-SUPERFUND—_____PROGRAM

SITE NAME: Columbine Landfill S.I.
CITY, STATE: Erie, CO
SITE SPILL ID: ZZ

REGION NO: 8
SAMPLING COMPANY ②: CDH
SAMPLER: (NAME) A. Buckingham

SHIP TO: ③
Associated Laboratories Inc
806 North Bativa
Orange, CA 92668
ATTN: Tracy Manning

SAMPLING DATE: ④
BEGIN: 3/19/91 END: 3/19/91

DATE SHIPPED: 3/19/91 CARRIER: Fed X ⑤
AIRBILL NO: 7685207375

SAMPLE DESCRIPTION ⑥ (ENTER IN BOX A)
1. SURFACE WATER
(2) GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MHP 905	2	L	✓								
MHP 887	2	L	✓								
MHP 889	2	L	✓								
MHP 888	2	L	✓								
MHP 891	2	L	✓								
MHP 892	2	L	✓								
MHP 885	2	L	✓								

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 16040 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND—____ PROGRAM

SITE NAME: COLUMBINE LANDFILL

CITY, STATE: ERIE, Co | SITE SPILL ID: ZZ

REGION NO: 8 | SAMPLING COMPANY ②: COH

SAMPLER: (NAME) A. BUCKINGHAM

SHIP TO: ③
S-CUBED
3398 CARMEL MOUNTAIN Co
PO BOX 1620
SAN DIEGO, CA 92121
ATTN: ELAIN WALTERS

SAMPLING DATE: ④
BEGIN: 3/19/91 END: 3/19/91

DATE SHIPPED: 3/19 CARRIER: Fed ⑤

AIRBILL NO: 903728247 2

SAMPLE DESCRIPTION ⑥ (ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED, H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
HG798	2	L		✓	✓			
HG799	2	L		✓	✓			
HG794	2	L		✓	✓			
HG798	2	L	✓					
HG799	2	L	✓					
HG794	2	L	✓					

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 16040 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND— PROGRAM

SITE NAME: COLUMBINE LANDFILL

CITY, STATE: ERIE, CO | SITE SPILL ID: ZZ

REGION NO: 8 | SAMPLING COMPANY ②: OH

SAMPLER: (NAME) A. BUCKINGHAM

SHIP TO: ③
S-CUBED
3398 CARMEL MOUNTAIN RD.
PO BOX 1620
SAN DIEGO, CA 92121
ATTN: ELAIN WALTERS

SAMPLING DATE: ④
BEGIN: 3/19/91 END: 3/19/91

DATE SHIPPED: 3/19 CARRIER: FED EX ⑤

AIRBILL NO: 903728246/

SAMPLE DESCRIPTION ⑥ ✓
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED, H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
HG792	2	L		✓	✓			
HG792	2	L	✓					
HG827	2	L	✓					
HG828	2	L	✓					
HG828	2	L		✓	✓			
HG793	2	L	✓					
HG796	2	L	✓					
HG795	2	L	✓					
HG795	2	L		✓	✓			

EPA Form 2075-7 (8-87)

903728246/

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 16256 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SITE NAME: Columbine Landfill
CITY, STATE: Erie Co. SITE SPILL ID:

REGION NO: VIII SAMPLING COMPANY ② CDH/HMWMD
SAMPLER: (NAME) Austin Buckingham

SHIP TO: ③
WADSWORTH/ALERT LAB, Inc.
4101 SHUFFEL DRIVE N.W
NORTH CANTON, OH 44720
ATTN: SAMPLE CUSTODIAN

SAMPLING DATE: ④
BEGIN: 4.18.91 END: 4.18.91

DATE SHIPPED: 4.18.91 CARRIER: ⑤
AIRBILL NO: 9037287460

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
(2.) GROUND WATER
3. LEACHATE
(4.) SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 (2) 3 (4) 5 6 7	Ⓑ CONCENTRATION L = LOW/MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
HJY18	2	L		X	X			
HJY18	2	L	X					
~~HJY18~~ HJY19	2	L	X					
HJ917	2	L	X					
HJ920	2	L	X					
HG7A7	4	L	X					
HG829	4	L	X					

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS:557-2490

CASE NO: 16256 | SAS NO: (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI (ESI) RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND—_____PROGRAM

SITE NAME: Columbine Landfill

CITY, STATE: Erie, CO | SITE SPILL ID: ZZ

REGION NO: 8 | SAMPLING COMPANY ②: CDH

SAMPLER: (NAME) Austin N. Buckingham

SHIP TO: ③
Datachem, Inc.
960 West Levoy Drive
Salt Lake City, UT 84123
ATTN: Lee Harris

SAMPLING DATE: ④
BEGIN: 4/18/91 END: 4/18/91

DATE SHIPPED: 4/18/ CARRIER: FX ⑤

AIRBILL NO: 903728246

SAMPLE DESCRIPTION ⑥ (ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MHP916	2	L	✓								
MHP915	4	L	✓								
MHP918	4	L	✓								

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO:

SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

① TYPE OF ACTIVITY (CIRCLE ONE)
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER
NON-SUPERFUND— PROGRAM

SITE NAME: COLUMBINE SI

CITY, STATE: EKIZ CO SITE SPILL ID:

② REGION NO: VIII SAMPLING COMPANY CDH

SAMPLER: (NAME) Austin A. Buckingham

③ SHIP TO: EPA VIII Environmental Services Division

ATTN:

④ SAMPLING DATE:
BEGIN: 10.21.91 END: 10.21.91

⑤ DATE SHIPPED: CARRIER:

AIRBILL NO:

⑥ SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED, H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
HK 815	2	L	2					
HJ 421	2	L		3				
HK 813	2	L		2				
HK 814	2	L		2				

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO:

SAS NO:
(IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____ PROGRAM

SITE NAME: COLUMBIA St

CITY, STATE: Zinc SITE SPILL ID:

REGION NO: VIII SAMPLING COMPANY ② CDH

SAMPLER: (NAME) Austin Bocking

SHIP TO: ③ EPA ULH Environmental Services Div.

ATTN: _____

SAMPLING DATE: ④
BEGIN: 10.21.91 END: 10.21.91

DATE SHIPPED: _____ CARRIER: ⑤

AIRBILL NO: _____

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

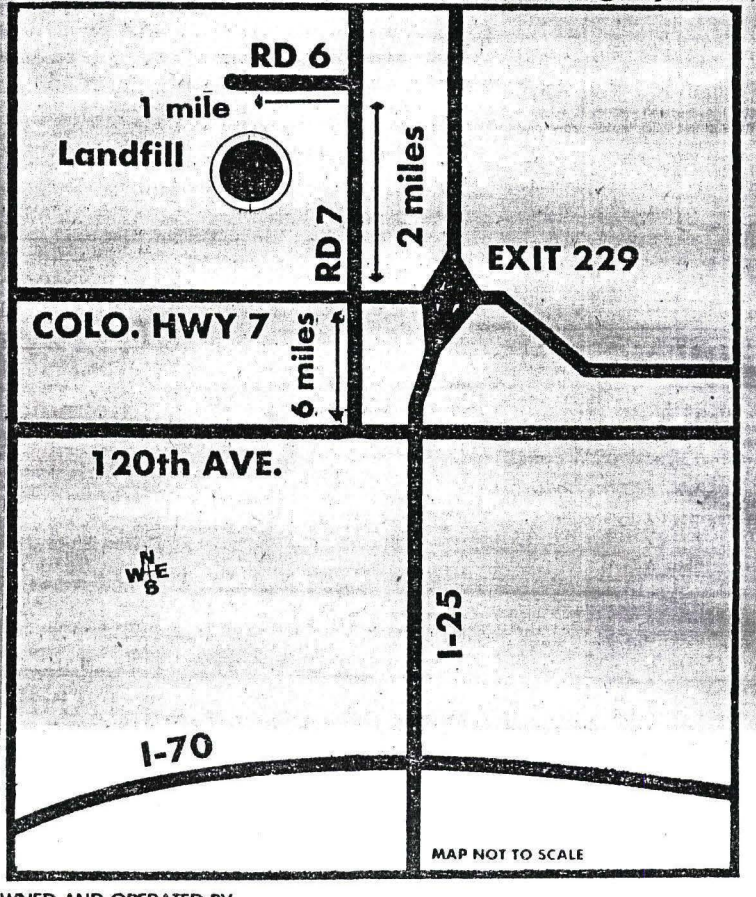
CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED, H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
HJ422	2	L		2				
HJ423	2	L		2				

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

Columbine Landfill

"Excellence for Environmental Integrity"



OWNED AND OPERATED BY:

COLORADO LANDFILL, INC.

450-2756

HOURS:
Monday, 5:00 a.m. - 24 hours a day thru Friday, 10:00 p.m.
Saturday 5:00 a.m. - 4:30 p.m.
Sunday CLOSED

Denver's Only Independent Landfill

RATES:
Cars - $2.00
Station Wagons (vans) - $3.00
Pick-up Trucks
small - $4.00
large - $5.00
Loose or compacted yardage
$2.30 per cu. yd.
• Uncovered loads $2.00 extra

CARS & PICKUPS — $1.00 OFF WITH AD

OFFER EXPIRES 6-8-84

RMN-3

Inorganic Samples sent to
Cambridge Analytical Assoc.
222 Arsenal Street
Watertown, MASS 02172
Attn: Keith Hausknecht

Organic Samples sent to
Spectrix Corp.
3911 Fondren
Suite 100
Houston, TX 77063-5821
Attn: Chris Barry

I.M. 139

3888 (7-82)

DISTRICT Boulder YEAR 90

MOUNTAIN BELL
CABLE LOCATION AGREEMENT

EXCHANGE Erie LOG NO. 166353

LOCATORS NAME Lee DATE 12-12-90

COMMITMENT TIME 230 TIME DISPATCHED ______ TIME COMPLETED ______

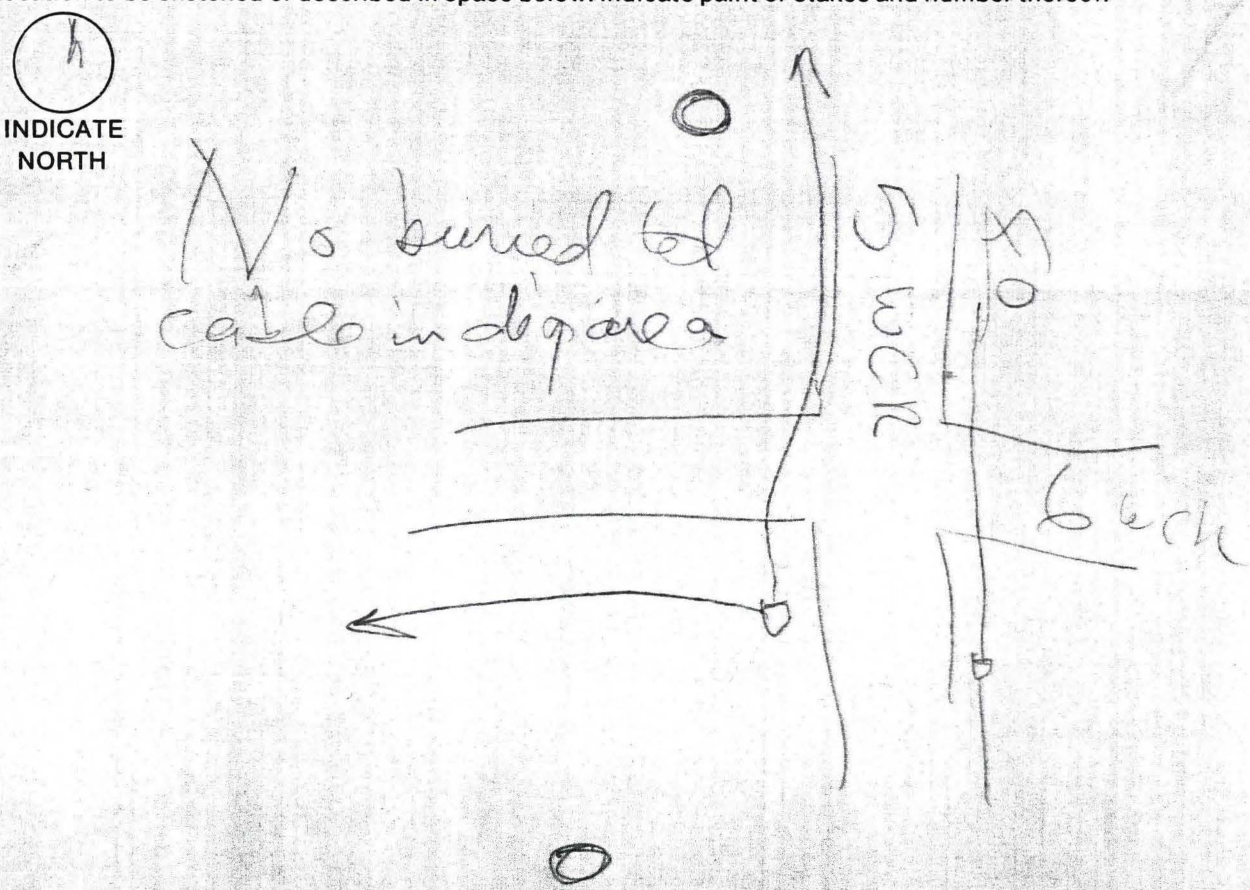
ADDRESS WCR 5 & WCR 6

LOCATING FOR: NAME OF COMPANY Health Dept, Weld Co

ADDRESS ______ PHONE NO. 3514848

Location to be sketched or described in space below. Indicate paint or stakes and number thereof.

INDICATE NORTH



IMPORTANT

18″ either side of the stake, paint mark or flag is considered a correct location. Dig to your vertical depth 18″ either side of the stake, paint mark or flag and expose the cable by hand before crossing the cable or digging beside it.

Party Requesting Locate Refuses To Sign ☐ ______ NAME

Party Requesting Locate Not Available ☐ ______ NAME

I agree that the sketch or description above reflects the location of underground facilities as requested.

X [signature]
SIGNATURE

PERSON REQUESTING LOCATION

PANHANDLE EASTERN PIPE LINE COMPANY

1717

A Unit of Panhandle Eastern Corporation
(303) 659-5922

GAS LOCATION SKETCH

Ticket # 166353
1N 68W 20SE, 29SE
Road 5 and Road 6
Colorado Dept of Health

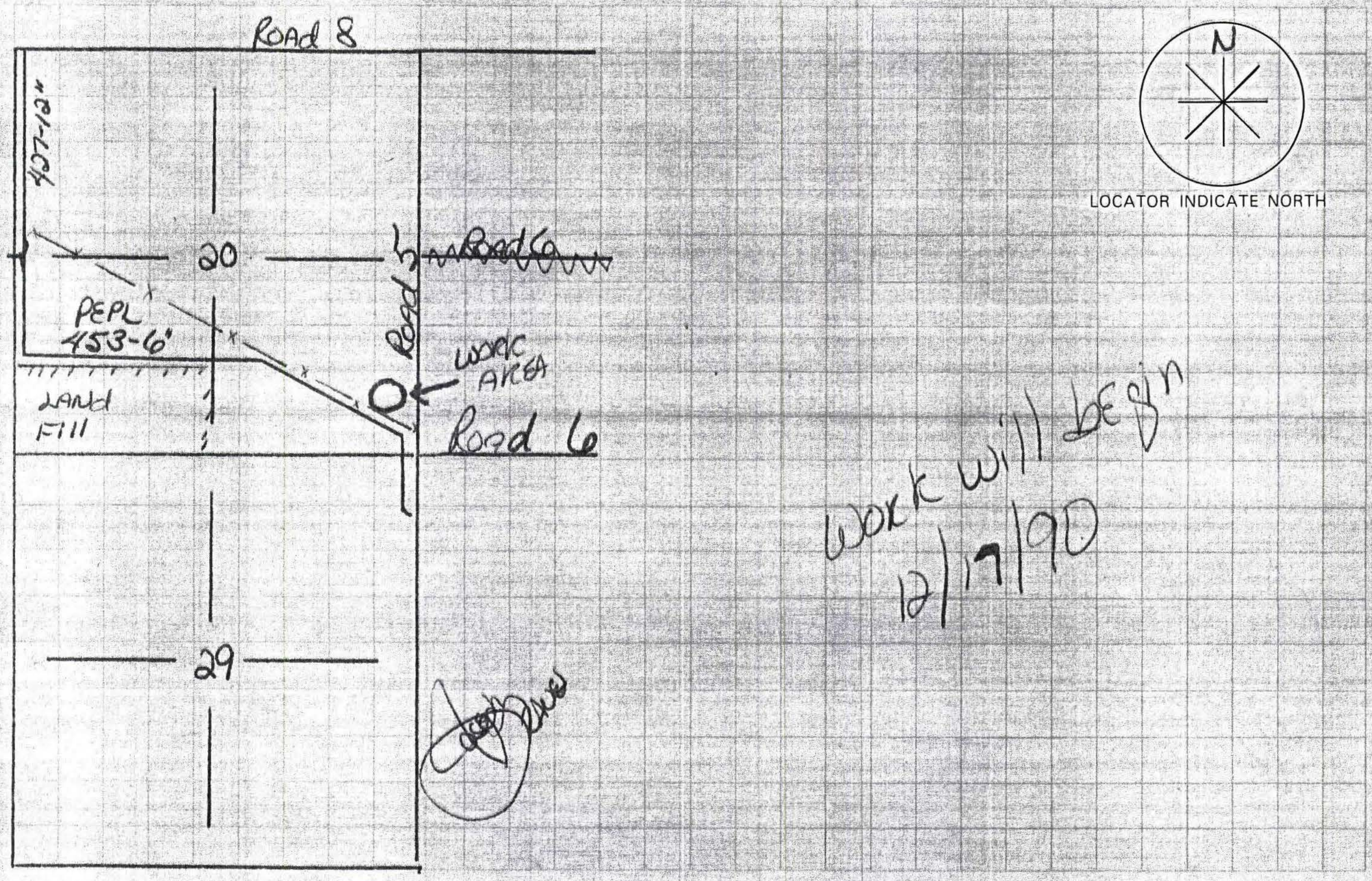
BEFORE YOU DIG REQUIRES TWO BUSINESS DAYS NOTICE

STATE LAW CRS 1973, 9-1.5-101 (SENATE BILL NO. 172-1981) requires EVERYONE planning to dig in or near a PUBLIC ROAD, STREET, ALLEY, RIGHT-OF-WAY, or UTILITY EASEMENT to notify the utility owners of your intent TWO BUSINESS DAYS BEFORE YOU DIG - **CALL 1-800-922-1987**

AREA OR DIVISION	COMMITMENT TIME	TIME ARRIVED	TIME COMPLETED
Brighton AREA		1:00 pm	2:25 pm

This sketch is approximate. The stakes, or paint marks denote the Locator's best estimated location of underground utility facilities.
DIG VERY CAREFULLY - PROTECT UNDERGROUND UTILITY, CABLES, PIPES, WIRES, AND OTHER EQUIPMENT.

How Marked: ☐ Stakes ☐ Flags



18 INCHES HORIZONTALLY FROM THE EXTERIOR SIDES OF THE FACILITIES IS CONSIDERED A CORRECT LOCATION

COMMENTS I met with Austin and she said if she would be in PEPL right-of-way she would call. I did stake the line (453-6")

LOCATOR'S NAME [signature] DATE 12/12/90

Signature of person contacted Austin A. Bucking

WHITE - GAS DISTRIBUTION DEPT. YELLOW - CUSTOMER PINK - LOCATOR

Public Service®

Public Service Company of Colorado

352109

GAS AND ELECTRIC LOCATION SKETCH

TICKET NO: 00166353 PSCO NO: 19901207000403
SEND TO: PSCLVG01 SEQ NO: 0005 MAP REF:
APPOINTMENT DATE: 12/12/90 TIME: 02:00 PM

TRANSMIT DATE: 12/07/90 TIME: 02:48 PM OP: MJAB06
ORIGINAL CALL DATE: 12/07/90 TIME: 02:41 PM OP: MJAB06
MARK BY DATE: 12/12/90 TIME: 02:45 PM

STATE: CO COUNTY: WELD CITY:
ADDRESS: STREET: CO RD 5
NEAREST INTERSECTING STREET: CO RD 6
TWNSHP: 1N R RNG: 68W S SECT-QTR: 20-SE,29-SE
TWNSHP: R RNG: S SECT-QTR: LG: Y

TYPE OF WORK: NEW WELLS
LOCATION OF WORK: MEET ON N/E CORNER OF INTERSECT. BOUNDS WITHIN LEGALS GIVEN

REMARKS:
COORS,PANHAN,WESGAS MEET AT 2:00P ON 12/12 OR CALL WITH ARRANGEMENTS

COMPANY : COLORADO DEPT OF HEALTH
CONTACT NAME: AUSTIN BUCKINGHAM PHONE: (303)331-4846 EXT.:
ALT. CONTACT:
WORK DONE FOR: COLORADO DEPT OF HEALTH EXP.: N
ADDITIONAL MEMBERS:
PANHAN01 PSCLVG01 USWNTH14 COORS 01 USWNTH15 WESGAS03

BEFORE YOU DIG REQUIRES TWO BUSINESS DAYS NOTICE

STATE LAW CRS 1973, 9-1.5-101 (SENATE BILL NO. 172-1981) requires EVERYONE planning to dig in or near a PUBLIC ROAD, STREET, ALLEY, RIGHT-OF-WAY, or UTILITY EASEMENT to notify the utility owners of your intent TWO BUSINESS DAYS BEFORE YOU DIG - **CALL 1-800-922-1987 or in Metro Denver 534-6700**

AREA OR DIVISION	COMMITMENT TIME	TIME ARRIVED	TIME COMPLETED

This sketch is approximate. The stakes, or paint marks denote the Locator's best estimated location of underground utility facilities.
DIG VERY CAREFULLY - PROTECT UNDERGROUND UTILITY, CABLES, PIPES, WIRES, AND OTHER EQUIPMENT.
How Marked: ☐ Stakes ☐ Paint ☐ Flags ☐ Nylon Whiskers

phone - have to be 25' west of road

LOCATOR INDICATE NORTH

No gas north of Hwy 7 (aka WCR#2)

George A. Moore West Gas nothing north of WCR#1

PANHANDLE 10 4"-6" below surface on South side of Power line gas 25' right on both sides. Call it within 25' of stakes

high pressure - gas line 150-250 psi

Carol Alston - need consent for access 659-5922

will stake 50' on both sides flagged yellow

18 INCHES HORIZONTALLY FROM THE EXTERIOR SIDES OF THE FACILITIES IS CONSIDERED A CORRECT LOCATION

COMMENTS _____

LOCATOR'S NAME Jody DATE 12-12-90

Signature of person contacted _____

WHITE - GAS DISTRIBUTION DEPT. YELLOW - CUSTOMER PINK - LOCATOR

FORM (C) 410-22-5912

EQUIPMENT LIST

TDD/PROJECT: _____

CHECK ( )	DESCRIPTION	NUMBER/AMOUNT REQUIRED, IF APPLICABLE (Including predetermined complete sets of blanks and duplicates, and extras)
	I. Sample Containers	
____	A. 1/2 gallon amber bottles (2/organic sample)	_____
____	B. 40 ml septum bottles for VOA's (2/organic sample)	_____
____	C. 1 liter polyethylene bottle (1/inorganic sample)	_____
____	D. 8 oz. wide mouth bottle (2/sample; 1 high, 1 med. conc.)	_____ _____
____	E. 16 oz. wide mouth bottle	_____
____	F. Other_____	_____
	II. Packaging Materials	
____	A. Coolers	_____
____	B. Vermiculite	_____
____	C. Cans, lids, clips	_____
____	D. Tape (Strapping, masking, electrical)	_____
____	E. Garbage bags	_____
____	F. Whirltop bags	_____
____	G. Heavy duty plastic bags	_____
____	H. Aluminum foil	_____
____	I. Ice	_____
____	J. Other _____	_____
	III. Forms/Documentation	
	Accountable Documents	
____	A. Chain-of-Custody forms	_____
____	B. Sample botte tags	_____
____	C. Sample receipts	_____
	Non-accountable Documents	
____	D. Organic traffic reports	_____
____	E. Inorganic traffic reports	_____
____	F. High hazard traffic reports	_____
____	G. NEIC forms	_____
____	H. Airbills	_____
____	I. Shippers certification for restricted articles	_____
____	J. Combination airbill - shippers certification for restricted articles	_____
____	K. Lab service request forms	_____
____	L. Field notebook	_____
____	M. Other _____	_____

IV. Labels

____	A. EPA custody seals	_____
____	B. DOT labels	_____
____	1. Flammable liquid (2 types)	_____
____	2. Flammable solid (2 types)	_____
____	C. E&E address labels	_____
____	D. This side up labels	_____
____	E. Return to E&E labels	_____
____	F. Other _____	_____

V. Field Equipment

	A. Monitoring	
____	1. OVA	_____
____	2. HNU	_____
____	3. Explosimeter	_____
____	4. O_2 meter	_____
____	5. Draeger pump	_____
____	6. Rad mini	_____
____	7. Personal dosimeter badges (TLD)	_____
____	8. Other _____	
	B. Sampling	
____	1. Basic	
____	a. Bailers	_____
____	b. Rope	_____
____	c. Stainless steel bucket	_____
____	d. Stainless steel funnel	_____
____	e. Knife	_____
____	f. Other _____	_____
	2. Well and Surface Water	
____	a. Water level indicator	_____
____	b. pH meter/calibration solutions	_____
____	c. Conductivity meter	_____
____	d. Thermometer	_____
____	e. Preservatives	_____
____	1. H_2SO_4	_____
____	2. NaOH	_____
____	3. Zinc acetate	_____
____	4. Ascorbic acid	_____
____	f. Barrel filter	_____
____	1. 45 micron millipore filters	_____
____	2. Glass prefilter	_____
____	g. Robiar pump - all components	_____
____	h. Submersible pump - all components	_____
____	i. Baski pump - all components	_____
____	j. Airtanks	_____
____	k. Well casing frame with rod	_____
____	l. Tape measure	_____
____	m. Meter stick	_____

____	n. Mechanical flow meter	_____
____	o. Boom	_____
____	p. Kemmerer sampler	_____
____	q. Other _____	_____

3. Soil Sampling

____	A. Spoon	_____
____	B. Scoops and handles	_____
____	C. Soil auger	_____
____	D. Shovel (NS)	_____
____	E. Pick (NS)	_____
____	F. Eckman dredge (for sediment and bottom sampling)	_____
____	G. Other _____	_____

4. Drum Opening/Sampling

____	A. Bung wrench	_____
____	B. Remote drum opening equipment	_____
____	C. Glass tubing	_____
____	D. Pipette bulbs	_____
____	E. Hand vacuum pumps	_____
____	F. Spray paint	_____
____	G. pH Paper	_____
____	H. Other _____	_____

5. Cameras

____	A. Canon	_____
____	B. Polaroid	_____
____	C. Film	_____

6. Miscellaneous

____	A. Safety rope	_____
____	B. Plastic tarps	_____
____	C. Wheel barrow	_____
____	D. Compass	_____
____	E. Binoculars	_____
____	F. Stakes	_____
____	G. Flagging tape	_____
____	H. Cascade system	_____
____	I. Maps	_____
____	J. Drum for waste disposal	_____
____	K. Watch	_____
____	L. Folding table	_____
____	M. Chairs	_____
____	N. WD-40	_____
____	O. Tools	_____
____	P. SOP manual	_____
____	Q. Calibrations manual	_____
____	R. Metal detector	_____
____	S. Soil resistivity equipment	_____

____ T. Magnetometer _____
____ U. Other _____

VI. Personnel Protection/Safety

____ A. Coveralls _____
____ 1. cotton _____
____ 2. chemclos _____
____ B. Safety glasses _____
____ C. Hard hat _____
____ 1. face shield _____
____ D. Ultra twin with appropriate cartridges _____
____ E. Robertshaw _____
____ F. Gloves _____
____ 1. surgical _____
____ 2. butyl rubber _____
____ G. Boots _____
____ 1. leather steel toe _____
____ 2. neoprene _____
____ 3. disposable booties _____
____ 4. waders _____
____ H. Butyl rubber apron _____
____ I. Tyvecs _____
____ J. Eastwind encapsulated suit _____
____ K. MSA-401 SCBA _____
____ 1. extra airtanks _____
____ L. First aid kit _____
____ M. Rain gear _____
____ N. Stretcher _____
____ O. Eye wash unit _____

VII. Decontamination Equipment

____ A. Wash tubs _____
____ B. Squirt bottles _____
____ C. Buckets(plastic/gg) _____
____ D. Orchard sprayer _____
____ E. Indian pump _____
____ F. Brushes _____
____ 1. test tube _____
____ 2. dairy _____
____ G. Garbage bags _____
____ H. Acetone _____
____ I. Methanol _____
____ J. Liquinox _____
____ K. Distilled water _____
____ L. Organics free water _____
____ M. 55 gal. drum tap water _____
____ N. Kim wipes _____
____ O. Plastic tarps _____
____ P. Trash can _____
____ Q. Aluminum foil _____

encana

October 8, 2015

Via Certified Mail, Return Receipt Requested

Mr. Randy Perila
Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Re: Proposed Settlement in the Matter of the Pratt Property Landfill
ESA No. 15-09-30-1
File: SW WLD PRA 1.6

Dear Mr. Perila:

Please find enclosed the settlement letter for the above matter signed by Encana. Also enclosed is check number 1316528 in the amount of $7,000.00 as per the settlement terms.

Sincerely,

ENCANA OIL AND GAS (USA) INC.

Judy Sisneros

Judy Sisneros
Senior Legal Assistant

Encl.

encana

October 8, 2015

Via Certified Mail, Return Receipt Requested

Mr. Randy Perila
Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Re: Proposed Settlement in the Matter of the Pratt Property Landfill
ESA No. 15-09-30-1
File: SW WLD PRA 1.6

Dear Mr. Perila:

Please find enclosed the settlement letter for the above matter signed by Encana. Also enclosed is check number 1316528 in the amount of $7,000.00 as per the settlement terms.

Sincerely,

ENCANA OIL AND GAS (USA) INC.

Judy Sisneros

Judy Sisneros
Senior Legal Assistant

Encl.

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

September 30, 2015

Jessica Cavens
Encana Oil & Gas (USA), Inc.
370 17th Street, Suite 1700
Denver, CO 80202

Certified Mail # 7013 0600 0000 9136 5894
Return Receipt Requested

Re: Proposed Settlement in the Matter of the Pratt Property Landfill
ESA No. 15-09-30-1
File : SW WLD PRA 1.6

Dear Ms. Cavens:

Encana Oil & Gas (USA) Inc. ("Encana") provides oil and gas exploration and production services. In November 2014, Encana encountered garbage and refuse while conducting trenching operations for pipeline installation on the Pratt Property located near the southwest quadrant of the intersection of Weld County Roads 5 and 6 near Erie, Colorado (the "Property"). WWD Limited Liability Company ("WWD") is the owner of the Property (Weld County Assessor Records - Parcel #146729100001). WWD and Encana do not have and have never had a certificate of designation issued by the Board of Trustees for the Town of Erie, Colorado for the disposal of solid wastes at the Property.

On November 25, 2014, an inspector from the Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and Environment (the "Division") conducted an inspection at the Property for the purpose of investigating a complaint regarding nuisance conditions (i.e., windblown trash) at the Property, and for determining the Property's compliance with the Colorado Solid Wastes Disposal Sites and Facilities Act ("the Act"), sections 30-20-100.5 to 123, C.R.S. and the Colorado Solid Waste Regulations ("the Regulations"), 6 CCR 1007-2.

Based on a review of the November 25, 2014 inspection and other records, the Division issued a Compliance Advisory to WWD and Encana on December 11, 2014. The Parties met on February 13, 2015, to discuss the issues set forth in the Compliance Advisory.

On March 20, 2015, the Division issued a draft Consent Order to WWD and Encana. The Parties met on June 23, 2015, to discuss the draft Consent Order. In addition, by letter dated May 14, 2015, Norton Rose Fulbright, on behalf of Encana, provided information regarding steps taken at the Property in response to the issues identified in the Compliance Advisory and draft Consent Order.

Based on a review of inspection records, the May 14, 2015 letter from Encana and the information presented during the February 13, 2015 and June 23, 2015 meetings, the Division has determined that Encana's trenching operations at the Property resulted in the disturbance of solid waste buried on the property. Encana disposed of solid wastes at the Property without having a certificate of designation issued by the Town of Erie, in violation of section 30-20-113(1)(b), C.R.S., and section 30-20-102(2), C.R.S.

Section 30-20-113(5), C.R.S., specifies that the penalty for such violations may be up to Ten Thousand Dollars ($10,000.00) for each day of each violation. Based upon review of the violations, the Division has calculated a preliminary penalty for the above listed violations of Ten Thousand Dollars ($10,000). The monetary amount of the Division's initial penalty calculation has been calculated in accordance with the Division's Solid Waste Penalty Policy and takes into account, among other factors, the magnitude and severity of the violation, cooperation of the company, as well as the Facility's prior history of violations of the Act and the Regulations. Settlement offers are based on the evaluation of the same factors and criteria in all cases. Based upon Encana's cooperation, and Encana's efforts to bring its operations at the Property into compliance with the regulations identified above, and in the interest of settling the matters cited herein, the Division therefore offers the following settlement:

1. Assessment of a reduced penalty in the sum of Seven Thousand Dollars ($7,000). Assessment of the penalty precludes further enforcement by the Division for the above-described violation against Encana. The Division retains its authority to take enforcement actions based on any and all violations not specifically described above.

2. By October 15, 2015, Encana shall submit a Closure Plan for Division review and approval. The Closure Plan shall include an implementation schedule and shall address compliance with the Regulations for all soil-disturbing activities conducted at the Property, including Section 5.5 if asbestos containing material or regulated asbestos contaminated soil is present in the area subject to the Closure Plan.

3. Upon Division approval of the Closure Plan, Encana shall implement the Closure Plan in accordance with the approved implementation schedule.

4. Within thirty (30) calendar days of completing Closure Plan activities, Encana shall submit a Closure Certification Report for Division review and approval.

5. Encana agrees that this settlement agreement constitutes an order issued pursuant to section 30-20-113, C.R.S., and is an enforceable requirement of the Act. Entering into this settlement shall not constitute an admission of violation of the Act, the Regulations, or the alleged facts relating thereto, nor shall any third party infer it to be such an admission in any administrative or judicial proceeding. However, Encana agrees not to challenge the factual or legal determinations herein, the Division's authority to bring, or the court's jurisdiction to hear, any action, insofar as it pertains to the matters contained

herein, to enforce the terms of this settlement agreement. The described violation will constitute part of Encana's compliance history for any purpose for which such history is relevant.

This letter constitutes an offer of settlement and is not a demand for payment. Please contact me if you wish to discuss this offer of settlement. We will be glad to consider any information you wish to submit related to the violations.

If the above terms are acceptable to you, within fifteen (15) calendar days of your receipt of this letter, please have the appropriate person at Encana sign and return this letter, along with a check paid to the order of the Colorado Department of Public Health and Environment in the amount of $7,000, to the Division as follows:

Mr. Randy Perila
Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

This offer of settlement, upon being fully executed by both the Division and Encana, shall constitute full and final resolution of the noncompliance issues identified herein and in the December 11, 2014 Compliance Advisory issued to Encana.

You may write or call to request a settlement conference if you wish to discuss the matter with representatives of the Division's compliance staff. Please be advised, however, that if a conference is requested, the offer contained in this letter is thereby withdrawn. If we do not hear from you within fifteen (15) days of your receipt of this settlement proposal letter, we will assume that you are not interested in resolving this matter as outlined above and will refer the violations for further enforcement. Please contact me at (303) 692-3386 or Jason King of the Colorado Attorney General's Office at (720) 508-6283, if you have any questions regarding this matter.

Sincerely,

Edward Smith

Edward Smith, Unit Leader
Solid Waste Compliance Assurance Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste
Management Division

cc: Douglas M. Ikenberry, HMWMD
Jason King, Office of the Attorney General

I certify that I am authorized by Encana Oil & Gas (USA) Inc. to execute this settlement agreement and bind Encana Oil & Gas (USA) Inc. to the terms and conditions of this agreement. I have read the above settlement and, on behalf of Encana Oil & Gas (USA) Inc., agree to the terms and conditions of this offer.

NAME: Jessica Cavens

TITLE: Sr. Manager, DJ Basin

Signature	Telephone Number	Date
Cavens	720 876 3888	10/06/15

encana

Encana Oil & Gas (USA) Inc.
370 17th Street, Suite 1700 (303) 623-2300
Denver, CO 80202

PRODUCTION ACCOUNT

CITIBANK N.A
One Penn's Way
New Castle, DE 19720
62-20/311

No. 1316528

VOID IF NOT PRESENTED FOR PAYMENT WITHIN 180 DAYS

CHECK NUMBER	DATE	PAY EXACTLY
1316528	Oct-07-2015	$7,000.00

PAY EXACTLY $7,000dols00cts
Seven Thousand Dollars & 00/100 Cents

TO THE ORDER TO.

COLORADO DEPT. OF PUBLIC HEALTH & ENVIRONMENT
4300 Cherry Creek Dr S
Denver CO 80246-1530
United States

ORIGINAL DOCUMENT CONTAINS ARTIFICIAL WATERMARKS ON BACK. HOLD AT ANGLE TO VIEW. IF PAGE OF DOCUMENT IS A BLUE BACKGROUND NOT A WHITE BACKGROUND

⑈0001316528⑈ ⑆031100209⑆ 3869463 4⑈

encana

Encana Oil & Gas (USA) Inc.
370 17th Street, Suite 1700 (303) 623-2300
Denver, CO 80202

VENDOR NAME	VENDOR NO.	CHECK DATE	CHECK NUMBER	NET AMOUNT
COLORADO DEPT. OF PUBLIC HEALTH & ENVIRONMENT	2124988	Oct-07-2015	1316528	$7,000.00

VOUCHER	VENDOR INV. #	INV. DATE	TOTAL AMOUNT	PRIOR PMTS & DESCOUNTS	NET AMOUNT
16644481	2124988-100615 Sttlmnt Pratt ESA No15-09-30-1	10/06/15	7000.00	.00	7000.00
TOTAL INVOICES PAID			7000.00	.00	7000.00

RECEIVED
OCT 14 2015
HAZARDOUS MATERIALS
AND WASTE MANAGEMENT

Prepared for

Stratus Redtail Ranch, LLC

Neuhauser Landfill,

Weld County, Colorado

Draft Drum Removal Work Plan

Prepared by

Geosyntec consultants

engineers | scientists | innovators

5670 Greenwood Plaza Blvd., Suite 540
Greenwood Village, Colorado 80111

Project Number DE0302

December 2017

TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

LIST OF ACRONYMS

AOC – Administrative Settlement Agreement and Order on Consent
APEN – Air Pollution Emission Notice
ARARs – Applicable or Relevant and Appropriate Requirements
CDPHE – Colorado Department of Public Health and Environment
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act
DRWP – Drum Removal Work Plan
FSP – Field Sampling Plan
HASP – Health and Safety Plan
OSC – On-Scene Coordinator (EPA)
PPE – Personal Protective Equipment
QAPP – Quality Assurance Project Plan
RCRA – Resource Conservation and Recovery Act
SAP – Sampling and Analysis Plan
SMP – Site Management Plan
SOPs – Standard Operating Procedures
SWMP – Stormwater Management Plan
VOCs – Volatile Organic Compounds
SVOCs – Semi-Volatile Organic Compounds

1. INTRODUCTION

This draft Drum Removal Work Plan (DRWP) was prepared by Geosyntec Consultants, Inc. (Geosyntec) on behalf of Stratus Redtail Ranch LLC (Stratus), to meet the requirements of the Administrative Settlement Agreement and Order on Consent **Docket Number CERCLA-08-2018-0002** (AOC) entered into voluntarily by the United States Environmental Protection Agency (EPA) and Stratus for removing buried drums located at certain property more specifically described in Figure 1 located in Weld County, Colorado Site (the "Site").

This DRWP provides a description of, and an expeditious schedule for, the actions required by Article VIII of the AOC, including: excavation and removal of buried drums identified at the Site by the July 2017 geophysical investigations together with any and all additional drums identified prior to or during execution of this DRWP; overpacking of leaking drums as necessary to prevent further releases; sampling and characterization of drum contents for disposal purposes; safe storage of the drums pending laboratory results and disposal arrangements; transport and disposal of the drums at facilities in compliance with the CERCLA off-site disposal rule within 30 days of excavation; inventorying of drum contents and recording of excavation GPS coordinates; and minimizing emissions of volatile organic compounds (VOCs) to the ambient air. This drum removal action also includes removal of soils contaminated by leaking drums, if any, and removal of a deposit of black sludge, as described in Section 4.1.

This DRWP is to be implemented in conjunction with the following documents, as required by the AOC

- Project Coordinator, Project Manager and Contractor's Qualification, Attachment A
- Stormwater Management Plan (SWMP), Attachment B.
- Health and Safety Plan (HASP), Attachment C.
  - Ambient Air Monitoring Plan (AAMP).
- Sampling and Analysis Plan (SAP), Attachment D including a:
  - Quality Assurance Project Plan (QAPP), Attachment D, and a
  - Field Sampling Plan (FSP), Attachment D.

In addition, the DRWP includes the following additional documents:

- Site Management Plan (SMP), Attachment E.
- Proposed Schedule, Attachment F

2. SITE LOCATION, CONDITIONS AND HISTORY

The Site is located on the northwest corner of County Roads (CR) 4 and 5 in Erie, Weld County, Colorado (Section 29, Township 1 North, Range 68 West). The property that encompasses the Site consists of approximately 290 acres of undeveloped grassland, except for gravel access roads and ongoing oil and gas production operations. The Site, previously known as the Pratt Property and the Erie Farm, is bounded by the Front Range landfill on the east side of CR5, residential properties to the south of CR4, and the Denver Regional Landfill and Old Erie Landfill to the northwest and north of the Site, respectively.

The ground surface at the Site generally slopes from east to the west. Surface water generally flows to the west toward unnamed drainages on the south and north sides of the Site, which flow northwest to Coal Creek, which is tributary to Boulder Creek. Silt and clay soils generally overlie weathered claystone, siltstone, and sandstone bedrock, encountered at depths of 1 to 14 feet below ground surface in borings drilled at the Site (Stewart, 2017b). Shallow groundwater is present in perched pockets within depressions in the bedrock surface.

Based on previous investigations (e.g., Stewart 2017a, 2017b), the Site was operated as a landfill by Sanitation Engineering, Inc. in the 1960s which accepted drums for disposal until early 1969. The AOC states that up to 1,500 drums containing approximately 84,000 gallons of chemical waste from various entities, including the International Business Machine Company (IBM), may have been disposed on at portions of the Site during this period, based on IBM responses to EPA requests for information in 1985 and 1991.

Stratus acquired the property in 2015, and subsequently conducted several environmental investigations in coordination with the Colorado Department of Public Health and Environment (CDPHE), including electromagnetic (EM) geophysical surveys and test pitting and sampling of drum contents, sludge, and impacted soils. According to Stewart (2017b), VOCs, primarily methyl ethyl ketone (MEK, also known as 2-butanone) and toluene, were detected in samples of drum liquids and sludges, in sludge samples, and in soil samples. The MEK and toluene concentrations in the liquid from the drums exceeded Resource Conservation and Recovery Act (RCRA) hazardous waste toxicity characteristic criteria.

The EM surveys identified two primary areas of historic drum disposal, as shown on Figure 2. Based on Stewart (2017b) approximately 100 to 150 drums are buried in the two primary areas as identified in the July 2017 EM survey.

The Site is currently zoned low density residential. Access to the Site is currently unrestricted (i.e., no perimeter fence) and no gated entrances. People potentially exposed to conditions at the Site include visitors, oil and gas well workers, and any trespassers. Wildlife habitats (e.g., prairie dogs) exist throughout the Site. Unregulated wetlands lie approximately 300 feet west of the anticipated drum removal area based on the October 23, 2014 Alpine Ecological Resources Report

3. NOTIFICATIONS AND ARARS

This section of the DRWP describes AOC required contractor notifications and identifies applicable or relevant and appropriate requirements (ARARs) for the on-site work.

3.1 Contractor Notification and Qualifications

Pursuant to Article VII of the AOC, Mr. Thomas Krasovec, P.E. of Geosyntec Consultants, Inc. will be the Project Coordinator, and ACT Enviro (ACT) will be the drum removal Contractor, including ACT's subcontractor, PSC and Environmental Remediation and ALS Environmental and Test America will provide laboratory services. Stratus will notify EPA of the names, titles, addresses, telephone numbers, email addresses, and qualifications of all contractors or subcontractors within 7 days after the Effective Date of the AOC. The qualifications of the Project Coordinator and Contractor are provided in Attachment A; ACT's and Geosyntec's Quality Management Plans will be submitted to EPA's OSC separately. EPA's OSC will be informed of any additional subcontractors no later than seven (7) calendar days prior to commencing work on the project.

3.2 Identification of ARARs

In accordance with Article XII of the AOC, all on-site actions required pursuant to the AOC shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, ARARs under federal environmental or state environmental or facility siting laws. According to Article XII of the AOC, *"[n]o local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work)…*" The following ARARs that may apply to on-site actions have been identified:

3.2.1 Federal ARARs

- 40 CFR Part 261 – Identification and Listing of Hazardous Waste
- 40 CFR Part 262 – Standards Applicable to Generators of Hazardous Waste
    - Subpart A - General
    - Subpart B – The Manifest (Subsections 262.20 – 23)
    - Subpart C – Pre-Transport Requirements (Subsections 262.30-32)
    - Subpart D – Recordkeeping and Reporting (Subsection 262.40)
- 40 CFR Part 263 – Standards Applicable to Transporters of Hazardous Waste
- 40 CFR Part 264 – Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
    - Subpart I – Use and Management of Containers (Subsections 264.171-174 and 264.177)

- 40 CFR Part 268 – Land Disposal Restrictions
- 40 CFR Part 300.440 Procedures for Planning and Implementing Off-Site Response Actions (Off-Site Rule)
- 29 CFR 1910.120 – Hazardous Waste Operations and Emergency Response (HAZWOPER)
- 29 CFR Part 1926 - Excavations
- 42 USC 300 et seq. - Safe Drinking Water Act – Protection of surface water drinking water sources
- 49 CFR Parts 171-173 and 177 – USDOT Hazardous Waste Transporter Requirements

3.2.2 State ARARs

The State of Colorado ARARs that have been identified are:

- 2016 General Permit COR030000 Stormwater Management Plan
- APEN – Air Pollution Emissions Notice.
- Colorado's Air Quality Control Commission (AQCC) Regulation No. 8 Part B – *Asbestos*

3.2.3 NPDES Permit Equivalency

Due to the expected disturbance of one acre or more of land during the drum removal, the Federal Clean Water Act is likely relevant to the Site. Therefore, BMPs, including the construction of erosion and sediment control measures and compliance with the performance standards of a 2016 General Permit COR030000-compliant Stormwater Management Plan (SWMP) will be followed. A copy of the SWMP prepared by Stewart Environmental is included as Attachment B.

3.2.4 EPA RCRA Waste Generator Identification

As Site owner, Stratus will obtain an EPA Waste Generator Identification (ID) number for the Site for off-site transport and disposal of wastes generated during the removal action. The application for this ID number will be submitted prior to mobilization to the Site.

3.2.5 Air Pollutant Emission Notice (APEN)

Pursuant to the AOC and this work plan Stratus will submit an APEN to the State of Colorado as proper notification of potential emissions from the activities at the Site. Continuous air monitoring will be conducted by the Contractor in accordance with the Ambient Air Monitoring Plan included in ACT's HASP in Attachment C.

3.2.6 Disposal Facility Notifications

In accordance with the CERCLA off-site policy, treatment and disposal facilities receiving waste shipments from the Site will be notified in advance that the wastes are derived from a CERCLA site.

4. SCOPE OF WORK AND REMOVAL PROCEDURES

The following described proposed additional EM surveying and test pitting at the Site, the drums and soil to be removed, the overall scope of work for the drum removal action, and the proposed removal procedures. All work in this Section will be performed by the Contractor under the oversight of the Project Coordinator unless otherwise indicated. In addition, an asbestos contractor will be on call as needed to identify asbestos containing materials for remediation.

4.1 Additional EM Surveying and Test Pitting

Additional EM surveys will be conducted by National GPR under the direction of the Project Coordinator in areas of the Site where solid waste was historically placed, but were not covered by the July 2017 survey, as shown on Figure 3. Test pitting of previously identified and new EM anomalies, if any, will be conducted by the Contractor under the direction of the Project Coordinator, as approved by the EPA OSC, to determine whether additional drums are present in these additional locations.

Stratus anticipates that the EPA OSC will be present to observe the test pitting activities and to approve the identification of additional drum removal areas, if any. The Project Coordinator will also advise CDPHE of the work schedule so that CDPHE representatives can attend and provide recommendations regarding test pit locations if desired. A report documenting the EM survey and test pit observations will also be prepared and submitted to EPA within 7 days of completion of field activities, along with a map showing all surveyed areas, EM anomalies, test pit locations, and areas where additional drums, if any, were observed and where removal is planned.

Stratus respectfully requests that EPA and CDPHE advise Stratus of any additional investigations that the agencies think are reasonable and necessary to identify any additional drums requiring removal at the site, so they may be addressed as part of the current removal action. Otherwise, Stratus understands that if unknown drums are encountered in the future through other activities, they may need to be addressed under applicable regulations, and suggests that such provisions could be included as a contingency under any CDPHE-approved closure plan.

4.2 Drums and Soil to be Removed

Drums that are found at the Site, as identified by the July 2017 geophysical investigation, as well as those found by the additional EM survey and test pit investigation described above, will be removed from the Site as part of this drum removal action; however, if the additional EM survey and test pit investigation identifies more drums than can reasonably and safely be removed within the currently scheduled time (see Section 7), the removal program will be conducted in two phases. The first phase will include all drums and the black sludge located in currently identified areas, as discussed below, and a reasonable number of additional drum, if any, identified by the additional EM survey and test pit investigation. If necessary, any additional drums will be removed during a subsequent removal phase, as approved by the EPA OSC.

Soils meeting the following criteria will also be included in this removal action:

- Soil visibly contaminated by leaking drum or container contents;
- Soil with a strong odor consistent with drum or container contents;
- Soil with total VOC concentrations of 100 parts per million by volume (ppmv) or greater as determined by soil sample head-space screening using a flame ionization detector (PID); and
- The black sludge identified in Stewart (2017b) and located in the area shown on Figure 2.

4.3 Scope of Work

In accordance with the AOC, the following work will be performed as part of the drum removal activities at the Site. A general site layout for the drum removal project is provided on Figure 4. More details regarding the technical approach for these items are provided in Section 4.3.

Phase I – Site Setup

- Request a utility locating of the site.
- Mobilization of necessary personnel and equipment.
- Construction of access roads to the work areas.
- Test Pitting for additional anomalous areas identified by EM surveys.
- Secured pad preparation for drum and soil staging, this includes locked perimeter fences, secondary containment and sumps for removal of stormwater.
- Installation of erosion and sediment control systems.
- Setup of air monitoring system.
- Setup of support services, health and safety equipment, and waste staging areas.
- Mobilization of a decontamination facility as necessary and setup of decontamination area(s).
- Removal of vegetation where appropriate in the work area.
- Establishing a surveyed grid for daily work areas as shown on Figure 4.

Phase II – Excavation

- During all earth disturbing activities including all excavation activities, a CABi will be present at each excavation area. The CABi, DS Environmental Inc. has been engaged by the removal contractor. An asbestos plan is included in Attachment E and the CABi's qualifications are included in Attachment A. All oversite and identification of asbestos containing materials will be at the discretion of the CABi.
- Should general waste materials be encountered, such materials shall be covered daily or as needed to minimize blowing debris or exposure. Existing waste materials, other than those associated with the drums and hazardous materials will be left on site for further assessment of disposition.

- Excavation and stockpiling of overlying soil in the initial excavation area to expose buried drums within the first grid area. This includes hand excavation around drums with anti-spark tools.
- Stockpiling of clean soil based on a lack of visible contamination, lack of odor, and low PID readings. Stock piles will be placed away from the excavation area in accordance with OSHA guidance such that the clean soils can be reused on site.
- Visual inspection, PID screening, and sampling of drum contents and impacted soils. The Contractor will provide samples of drum contents and soils to the Project Coordinator, who will ship the samples under Chain of Custody to the off-Site laboratory for analysis. This will be completed for each grid area before exposing the drums in the next grid area, as shown on Figure 4.
- All drums will be placed in UN 51 approved overpacks for temporary staging in a secured secondary containment area. Potential leaking drums will have their contents removed and placed in a UN 51 approved container for proper disposal.
- Placement of heavily deteriorated drums and drum pieces in cubic yard boxes for disposal.
- Assessment of surrounding soils to identify visibly contaminated soil and soil without visible contamination associated with the drums for off-site disposal. Soils with a heavy odor indicative of elevated MEK concentrations will be drummed immediately for assessment and disposal.
- Field screening of the excavation side walls and floor to evaluate if additional soils should be removed. PID concentrations greater than 100 ppm total VOCs shall be removed and disposed where possible.
- Collection of post-excavation soil samples by the Project Coordinator and submittal to the off-Site laboratory for analysis.
- Surveying of the limits of each excavation, mapping of drum locations, and documentation of drums removed.
- Decontamination of equipment of heavy equipment will be conducted following all drum removal or if needed to move equipment. The lined storage pads noted above will be used for decontamination purposes. All liquids will be contained in drums for assessment and disposal.
- Work area restoration to included only grading to remove hazardous slopes or holes only at this time pending final remedial activities to be coordinated with the CDPHE.

<u>Phase III – Disposal</u>

- Waste profiling, manifesting, and load-out of the various waste streams.
- This may include roll-off containers, cubic yard boxes, trailers etc. pending the quantity to be removed from the site. Soils with strong odors may be covered with foam as need for odor control.

- Transportation and disposal of waste materials at properly licensed, EPA approved offsite disposal facilities.

4.4 Removal Procedures

The following procedures proposed for conducting the above scope of work. Preliminary testing of drum contents will be conducted using Spilfyghter strips to assess for common contents. Hazardous Categorization (Haz-catting) may be employed if drums are encountered containing compounds other than the known VOCs, SVOCs and metals at the site. Spilfyghter and Haz-catting would be conducted in accordance with the manufacturers recommendations. Please refer to the FSP included in the QAPP in Attachment D for a description of field sampling techniques that will be used during excavation. Quality control procedures are described in the QAPP. Clean soils will be stockpiled and then reused on site.

4.4.1 Mobilization, Site Setup and Security

Based on observations made during the Site walk conducted by the OSC, the Project Coordinator, and representatives of CDPHE, the Contractor, Stratus, and Stewart on October 30, 2017, access road improvements will be required. Access for Site personnel, vehicles, and equipment will be from County Road 5 (CR 5). Areas of suspected buried drums are approximately 800 feet from the access road and 550 feet from County Road 5. The suspected buried drum areas are shown on attached Figure 2. Site access and layout are shown on Figure 3.

Once access to the work area is available, temporary drum and soil staging areas will be constructed as described below. Erosion and sediment control systems will be installed around the work areas as necessary in accordance with the SWMP (Attachment B). The temporary staging areas will be surrounded by a chain link fence with a locked gate. Warning signs will be posted indicating “No Trespassing” and each gate will be secured with chain and padlock at the end of the shift. A standard orange constructing fence will be placed around the construction area with periodic signage noting the danger. Signage will note “No Trespassing, Hazardous Terrain”. Site work zones will be established, including an exclusion zone (EZ), contaminant reduction zone (CRZ), and support zone (SZ), and marked with construction fencing and signage. Equipment will be mobilized, staged, and prepared for excavation. Please refer to the SMP in Attachment E for further details about mobilization and Site setup.

4.4.1.1 Temporary Drum and Soil Staging Areas

Temporary drum and soil staging areas will be established within the EZ and shall be constructed of hay bale berms and polyethylene liners used to collect or retain spills and storm water from rain events that might have come into direct contact with excavated waste materials. The storage areas will be surrounded by chain link fence with locked gates. The polyethylene liner will be covered with a layer of sand overlain by a layer of gravel so that the liner is protected from potential puncture damage. A sump will be installed within each staging area to facilitate pumping of fluids and run-off that collect in the area. Each area will contain spill response equipment consisting of polyethylene sheeting, absorbent pads, absorbent booms, personal

protective equipment (PPE), and hand tools. These areas will be covered with polyethylene sheeting weighted down with hay bales or sand bags at the end of each day for protection from weather. The waste staging areas will be inspected daily when active waste excavation and staging placement operations are occurring, and weekly during any subsequent down time between the completion of excavation and subsequent waste load-out.

All drums will be placed in new UN 51 approved overpacks and placed within a hay-bale bermed area lined with polyethylene sheeting or a trailer or transport vehicle pending accessibility to the drum storage container (trailer) described below. Where necessary the liquids from the existing drums will be transferred to new UN 51 approved drums for transportation and disposal. All drums, overpacks and other containers will meet current federal and state regulations for transportation and disposal. The soil drums will be separated from the liquid drums. Impacted soil will be staged in a separate hay-bale bermed and lined area. Soils that do not appear to have been impacted will be staged within or around the excavation area for reuse on site.

It is currently anticipated that temporary staging areas will be located near the two general locations where drums were reportedly buried in larger quantities at the Site as shown on Figure 4. If other staging locations are later determined to be appropriate, the OSC will be notified in advance for consideration and approval. The waste staging areas shall be enclosed with a chain link fence and locking gate.

4.4.1.2 Drum Storage Container

Drums will be moved from the temporary staging areas described above to trailers for offsite transport as soon as practicable, considering weather and ground conditions. The trailer or offsite transports will be locked at all times, except when loading or inspecting the drums or overpacks. All drums will be removed from the Site within 30 days of excavation, pending acceptance by the disposal facility and weather conditions permitting. When necessary trailers of drums may be taken to ACTs storage area for 10 days of additional storage. The OSC will be promptly informed of any anticipated delays in drum removal due to weather or other adverse working conditions.

4.4.1.3 Erosion Control Measures

Areas not requiring excavation for drum or soil removal will be left undisturbed to the extent feasible to limit the potential for erosion. Erosion control BMPs as described in the SWMP (Attachment B) will be applied in areas where site work occurs. BMPs may include silt fences, hay bales, straw swales, wattles, and diversion channels / berms to divert storm water away from the work area and to reduce erosion as needed. Soil berms will be constructed on the uphill side of excavation areas to divert stormwater from the excavation areas and on the downhill side as necessary to contain stormwater in the work area. Ponded stormwater in the work area will transferred to a 55-gallon drum for testing and disposal

4.4.2 Drum and Soil Removal

A variety of excavation alternatives and tools will be available to expose and extract drums and/or other containers (both intact and damaged). The specific equipment used will be determined at the time of excavation. In general, all but an approximate 6-inch layer of soil over the tops of the buried drums will be removed and stockpiled using a track-mounted mini-excavator. Only limited areas of drums will be exposed at any given time, unless two excavators are working at different grid areas at the same time, to limit the potential for air emissions and odors, and to limit the potential for direct contact with precipitation.

Soils covering the drums and/or other containers will be stockpiled away from the excavation in accordance with Occupational Safety and Health Administration (OSHA) excavation regulations. Drums will then be exposed using anti-spark tools so that the conditions of the drums can be assessed. The contents of the drums will be checked visually by drawing a sample using a glass tube and with Spilfyghter stirps to generally assess the contents. Samples of the contents of each drum will be collected for laboratory analysis as noted in the FSP in the SAP (Attachment D), unless drum labels and other evidence (Spilfyghter strips) indicates that a group of drums contain the same material. In this case, a composite sample will be collected from the group, with a maximum of five drums per composite sample. If deemed necessary Haz-catting may be included in these procedures and this plan will be revised as necessary due to unanticipated wastes being encountered.

Drums and/or other containers deemed competent will be removed using the mini-excavator or drum picker and placed in a UN 51 aproved over-pack. Drums that have deteriorated such that they are no longer competent (i.e., "debris" in accordance with the RCRA Debris Rule[1]) will be emptied of their contents using a drum pump or vacuum transferring the liquids to a new UN 51approved 55-gallon drum. Drums and/or other containers within the identified drum area that have deteriorated such that they are in pieces (i.e., "debris" in accordance with the RCRA Debris Rule[2]) will be excavated and placed in cubic yard boxes or roll-off containers. Decisions on which removal technique(s) to use will be at the direction of the Contractor's Project Manager noted in Section 6. Drums will be numbered, labeled, and staged by the Contractor for offsite disposal pending the results of laboratory analysis. All drum information will be provided to the Project Coordinator, whether sampled or not. The drum locations will be recorded, and pictures will be taken of existing labels on drums prior to moving the drum from the excavation where possible. After drum removal is completed within an excavation grid area, post-excavation assessment and soil sampling will be conducted of the excavation bottom and side walls, as described in the following subsections. Regrading and backfilling of the excavations will be conducted at a later date after the removal action is complete, except to the extent that backfilling is required to cover impacted but non-hazardous soils, control odors, and/or stabilize the excavation.

[1] As defined in the Federal Register, Vol. 57, pp. 37194-37282, August 18, 1992.

[2] As defined in the Federal Register, Vol. 57, pp. 37194-37282, August 18, 1992.

Sampling and profiling requirements are presented in the Field Sampling Plan and QAPP and will be provided to the OSC prior to beginning sampling. The current plan is to dispose of hazardous waste at the Clean Harbors Facility in Kimball, Nebraska and non-hazardous materials in a CERCLA facility approved by the EPA.

4.4.2.1 Horizontal Extent of Excavation

The horizontal extent of excavation will be evaluated based on drum and/or other container locations and field screening. Where field screening warrants (Total VOCs greater than 100 ppm as field measured using a PID), the side walls maybe extended back from the excavation one or two feet pending discussions with the OSC. Post-excavation soil samples will be collected from the excavation side walls as described in the FSP (Attachment D). The excavation will be extended as needed to remove drums and soils requiring removal per Section 4.1, including soils that are found to be characteristically hazardous.

The excavation perimeters will be mapped by GPS and staked to maintain control and document excavated areas. The final perimeter will be surveyed by a Colorado licensed surveyor.

4.4.2.2 Vertical Extent of Excavation

Excavation will continue vertically until the drums and soils described in Section 4.1 are no longer indicated. The vertical extent of the excavation will be made in coordination with the EPA OSC, based on the observed extent of materials meeting the soil removal criteria in Section 4.2, and may extend one to two feet into weathered bedrock but will not extend beyond the point of refusal of the excavation equipment being used. The vertical extent of the excavation areas will be confirmed by the Project Coordinator by collecting post-excavation soil samples from the floor of the excavation for field screening as described in the FSP (Attachment D). Field screening results will dictate whether additional excavation, if practicable, and/or additional soil sampling will be performed. If soil screening with a PID exceeds 100 ppm total VOCs additional excavation will be conducted as allowed by the site conditions and equipment.

4.4.3 Characterization, Handling, and Disposal of Waste

Samples of the wastes will be collected for laboratory analyses as noted in the FSP (Attachment D), and Stratus will use the analytical data to make waste determinations in accordance with RCRA regulations. When possible and acceptable to the EPA OSC and the offsite disposal facility, some analyses will be discontinued if consistent results are identified in the drum, sludge and soil sampling. Proposed disposal facilities include the Clean Harbors facility in Kimball, Nebraska (Hazardous waste), and the Foothills Landfill in Erie, Colorado (Non-Hazardous Waste). Samples showing total VOCs greater than 100 ppm using a field PID will be properly disposed off-site.

4.4.4 Air Monitoring and Vapor/Odor Emissions Control

Air monitoring during the foregoing activities will be conducted by the Contractor in accordance with the Ambient Air Monitoring Plan (AAMP) prepared by the Contractor and provided in their HASP Attachment C. Air monitoring data will form the basis for modifications of work practices and/or engineering controls implemented by the Contractor to reduce emissions to acceptable levels. Odors will be controlled by keeping liquids in closed containers and by covering soils, as necessary.

If air monitoring indicates that a screening level has been exceeded, excavation activities will be stopped, and the situation will be immediately investigated. If the condition does not abate within 15 minutes, additional engineering controls will be implemented as necessary. These engineering controls may include:

- Odor control agents designed to neutralize nuisance odors observed at the Site,
- Foaming agents that are biodegradable, non-hazardous, and non-combustible and provide a barrier for immediate control of dust, odors, and volatile compounds, and/or
- Cover materials (synthetic low permeability sheeting, or mineral soils) that abate excavation emissions and allow time for further assessment of airborne hazardous substances.

4.4.5 Sampling and Analysis Plan (SAP)

All materials will be sampled and analyzed following procedures outlined in the SAP (which includes the Quality Assurance Project Plan (QAPP) that describes quality assurance controls and measures, and the Field Sampling Plan (FSP) (Attachment D). The purpose of the SAP is to assure that analytical results generated during the removal activities are of an appropriate quality to meet the data quality objectives (DQOs) and support remedial decisions regarding materials to be excavated and how they should be handled/disposed.

4.4.6 Site Management and Security

Site management will include keeping all excavated drums and waste in locked areas with posted warning signs. The excavation areas will be covered up at the end of each day to prevent direct contact. The SMP, which further describes Site management and security, is attached as Attachment E.

4.4.7 Health and Safety Protocols

The Health and Safety Plan (HASP) for this project was prepared in accordance with the requirements of Title 29, Code of Federal Regulations (CFR) Part 1910.120 to protect onsite personnel, visitors and the public from physical harm and exposure to hazardous materials during the removal activities at the Site. Where possible, personnel are kept at a distance from potential hazards when equipment can be used to conduct the task. The ACT HASP is attached as Attachment C, with all other Respondent contractor's subordinate HASPs addended.

5. COMMUNITY INVOLEVEMENT PLAN

The Community Involvement Plan is being coordinated by CDPHE and EPA with technical assistance from Respondent as necessary.

.

6. PROJECT ORGANIZATION

On Scene Coordinator (OSC)
Joyce Ackerman
U.S. Environmental Protection Agency Region 8
Office: 303-312-6822
Email: ackerman.joyce@epa.gov

Respondent:

Stratus Redtail Ranch, LLC
Richard Dean, Manager
Office: 720-214-5000
Mobile: 303-619-4363
Email: rdean@stratuscompanies.com

Project Coordinator:

Thomas Krasovec
Geosyntec Consultants, Inc.
Office: (720)509-8911
Mobile: (517)719-4984
Email: tjkrasovec@geosyntec.com

The Project Coordinator serves as the representative for the Respondent for the project. The Project Coordinator is responsible for carrying out the requirements of the AOC and is the official point of contact with the EPA OSC. The Project Coordinator will have direct interface with the Respondent, OSC, and the Contractor's Project Manager.

Contractor:

Tobi L. Moore (Contractor Representative)
ACT Enviro
Office: (303)517-8155
Email: tmoore@ACTEnviro.com

The Project Coordinator will be responsible for both oversight of field activities and preparation of progress and final reports. The Contractor will be responsible for implementation of this DRWP. See Figure 5 for Project Organizational Chart.

Contractor Project Manager:

Jacob Blanton (Project Manager)
PSC
Office 618-281-7173
Mobile: 314-799-9651
Email: Jacob.Blanton@PSCNow.com

The Contractor Project Manager is the person responsible for implementing and directing field operations and ensuring that all operations are conducted as described in project documents. The Project Manager will communicate with the Project Coordinator, and will provide direction to field personnel onsite. All personnel on site have the authority to stop work at anytime for safety, quality control or regulatory issues.

7. PROPOSED SCEHDULE

Initial mobilization and site setup began on November 27, 2017. Geosyntec anticipates drum removal will begin on or shortly after December 11, 2017, weather permitting. Contingent upon the number of drums encountered and conditions at the Site, Geosyntec anticipates the completion of excavation approximately three to four weeks thereafter. Final disposal of excavated materials and demobilization would take place during the following approximately two to four weeks, but within 30 days of excavation of the drums as required by the AOC, weather permitting.

The major project elements and corresponding schedule are set forth in Attachment F.

8. FINAL REPORT

In accordance with the AOC, the Final Report will be submitted 60 days after the completion of the tasks outlined in this Plan, including receipt of completed disposal documentation and receipt of laboratory data for post-excavation soil samples. In addition to fulfilling the requirements of the AOC, at a minimum, the Final Report will include the following information:

- A list of completed activities and a certification that each has been completed in accordance with approved plans.
- Digital color photographs with a written description.
- Tabular summary of analytical results.
- Site sketches/maps showing initial conditions, status of work at interim milestones, and the final Site conditions. The final map shall include the analytical data that corresponds to the areas that soil excavation/disposal occurred
- Legible copies of shipping papers and manifests of all off-site shipments of hazardous and non-hazardous wastes
- Tabular summary of wastes shipments. The summary shall include but not be limited to the following: total weight per waste stream, final disposal facility for each waste, treatment methods applied to each waste, state and Federal waste codes assigned (if any), and the total number of shipments
- Deliverables will be provided in the formats required by the AOC

9. POST REMOVAL SITE CONTROL

Following the implementation of this DRWP, we anticipate that buried containers, associated waste, and soil visibly contaminated by wastes from the buried containers will have been removed as part of the performance of the drum removal action. Therefore, no post-removal Site controls should be required related to the drum removal. Any further actions that might be necessary to address other solid waste concerns related to the Erie Landfill will be addressed pursuant to regulatory programs administered by CDPHE.

10. REFERENCES

CDPHE, 2017a, CDPHE Approval with Modification of the Revised Report on Nature and Extent Investigation at the Stratus Redtail Ranch, LLC, May 12, 2017.

CDPHE, 2017b, CDPHE Comments on the Phase 2 Nature and Extent Investigation Report, Stratus Redtail Ranch, LLC, November 15, 2017.

Stewart, 2017a. Revised Report on Nature and Extent Investigation at the Stratus Redtail Ranch, LLC, Erie, Colorado, May 10.

Stewart, 2017b. Report on Phase 2 Nature and Extent Investigation at the Stratus Redtail Ranch, LLC, Erie, Colorado, October 20.

TABLES

Soil Testing (Quest), Pond Sediment and Test Pit Samples and TCLP Results

Parameter	Quest MW-9 Soil	Pond Sediment Sample	Test Pit 1 - 5 to 6 ft	Test Pit 2 - 5 to 6 ft	Test Pit 3	Test Pit 4	Test Pit 5 - Solvent Drum Sample	Test Pit 5 - Solvent Drum Sample - TCLP Result	Test Pit 4	Test Pit 4	Test Pit 8 - 5 to 6 ft	Test Pit 9 - 5 to 6 ft
	16-Apr	22-Feb	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan
VOC's (Method 8260)			**All Values are in mg/kg (ppm) Except Pond Sample (ug/l)**									
1,4-Dichlorobenzene	0.015	<1	<0.17	<0.17	No sample - no indication of organics	No sample - no indication of organics	<2,500		No sample - no indication of organics	No sample - no indication of organics	<0.17	<0.17
Cis-1,2-DCE	0.016	<1	<0.17	<0.17			<2,500				<0.17	<0.17
1-1, DCE	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17
Isopropylbenezene	ND	<1	<0.17	<0.17			<2.500				0.316	<0.17
Isoproplytoluene, 4-	ND	<1	<0.17	<0.17			<2,500				0.346	<0.17
Trimethylbenzene, 1,2,4-	ND	<1	<0.17	<01.7			<2,500				0.223	<0.17
Trimethylbenzene, 1,3,5-	ND	<1	<0.17	<01.7			<2,500				0.187	<0.17
2-Butanone (MEK)	ND	<1	30.5	41.7			530,000	26,500			41.20	28.7
butylbenzene, n-	ND	<1	<0.17	<0.17			<2,500				0.277	<0.17
Trichloroethlene (TCE)	0.020	<1	0.217	<0.17			<2,500				<0.17	<0.17
Toluene	ND	<1	0.185	18.6			2,700	135			0.280	0.200
Tetrachloroethylene (Perc)	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17
Tetrahydrofuran (TFA)	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17
Vinyl Chloride	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17
Xylenes - Total	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17
Remaining VOC's are ND	ND	<1	<0.17	<0.17			<2,500				<0.17	<0.17

SOC's (Method 8270)	**All Values are in mg/kg (ppm)**											
1,4 - Dioxane	NA	<8	NA	NA	No Sample - no indication of organics	No Sample - no indication of organics	<2,000		No Sample - no indication of organics	No Sample - no indication of organics	NA	NA
Benzoic Acid	NA	<80	NA	NA			<2,000				NA	NA
Bencyl alcohol	NA	<8	NA	NA			<2,000				NA	NA
Bis(2-ethylhexyl) phthalate	NA	<8	NA	NA			<2,000				NA	NA
2-Methylphenol	NA	<8	NA	NA			<2,000				NA	NA
Pentachlorophenol	NA	4 - J	NA	NA			<1,000				NA	NA
Remaining SOC's are ND	NA	<8	NA	NA			<2,000				NA	NA

	All Values are in mg/l											
Total Organic Carbon	NA	1.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

B- Detected between MDL and PQL

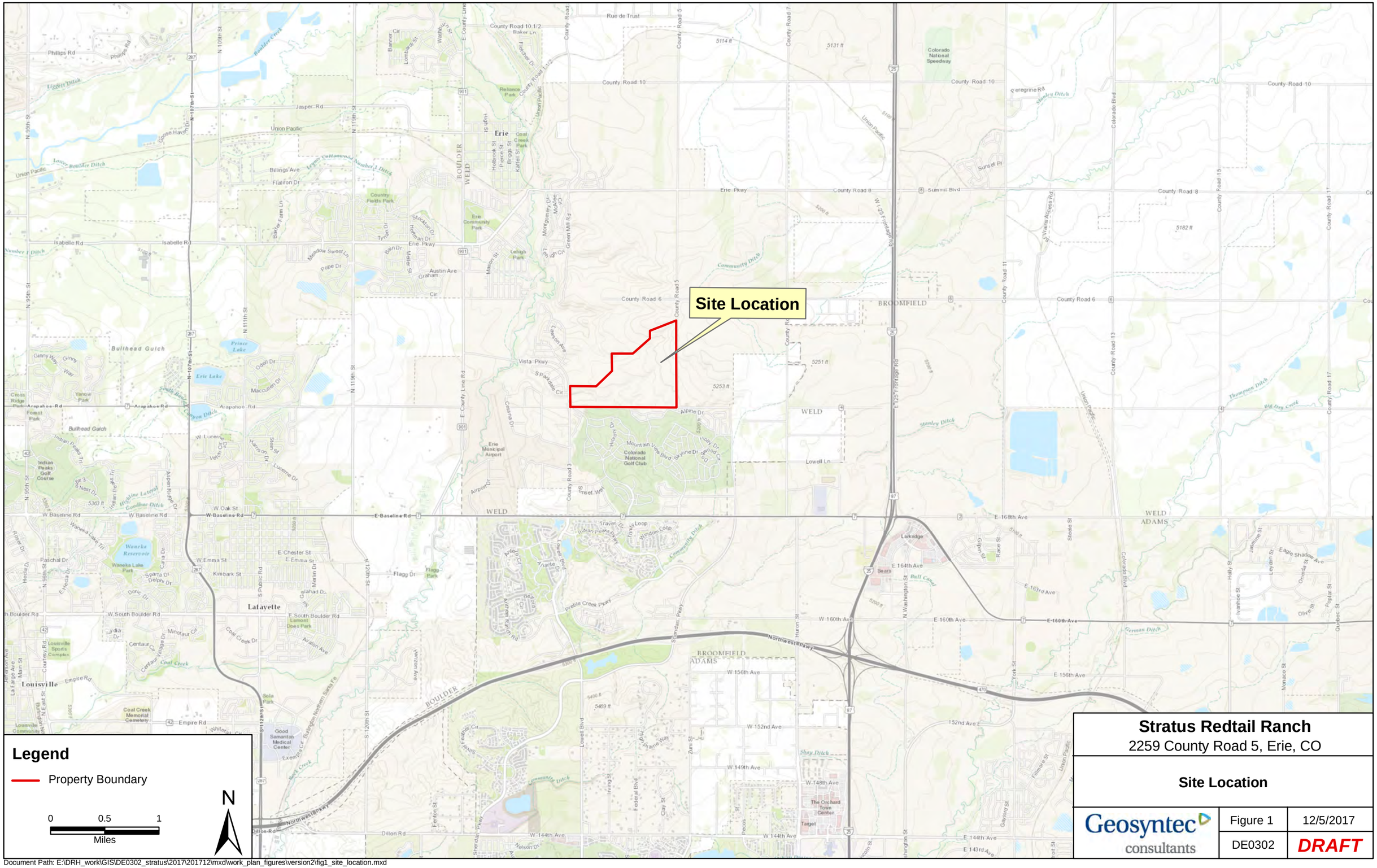
Table 1 Drum and Soil Testing – From Stewart Environmental

Parameter	Compound CAS Number	CDPHE Water Quality Groundwater Standards	MW-1		MW-2	MW-2R	MW-3B		MW-4		MW-5		MW-6		MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	QMW-12
			12/16/2016	7/10/2017	12/16/2017	7/17/2017	12/16/2017	7/10/2017	12/16/2017	7/17/2017	12/16/2017	7/12/2017	12/16/2017	7/6/2017					7/11/2017	7/11/2017	7/12/2017		7/10/2017	7/6/2017			7/27/2017	7/13/2017	8/23/2017
				7/12/2017		7/20/2017		7/17/2017		7/27/2017		7/20/2017		7/10/2017					7/19/2017	7/19/2017	7/20/2017		7/12/2017	7/12/2017				7/20/2017	
				7/20/2017				7/20/2017						7/19/2017							7/25/2017		7/17/2017	7/17/2017					
																							7/20/2017	7/20/2017					
VOC's (Method 8260) ug/l																													
Acetone	67-64-1	6300	<2	32	<2000	<380	<20	28		9.1 - J	<2	<1.9	<2	4.1 - J					25.00	23.00	110 - J		42.00	<190			<1.9	28.00	<1.9
Benzene	71-43-2	5	<2	<0.16	<2000	<32	<20	<0.16		<0.16	<2	<0.16	<2	0.37 - J					0.24 - J	1.8 - J	<6.4		<0.16	<16			<0.16	<0.16	<0.16
1-1, DCE	75-35-4	7	<2	<0.13	<2000	<46	<20	<0.23		<0.23	<2	<0.2	<2	<0.23					<0.22	0.51 - J	240		<0.23	35 - J			<0.22	<0.22	<0.22
Freon-11	75-69-4	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA					NA	NA	NA		NA	NA			NA	NA	<0.29
Freon-113	76-13-1	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA					NA	NA	200		NA	NA			NA	<0.42	<0.42
1,4-Dichlorobenzene	106-46-7	75	<2	<0.16	<2000	<32	<20	<0.16		<0.16	<2	<0.16	<2	1.20					4.9	1.3 - J	<6.4		<0.14	<16			<0.16	<0.16	<0.16
1,2,4-Trimethylbenzene	95-63-6	NA	<2	<0.15	<2000	<30	<20	<0.15		<0.21	<2	<0.21	<2	<0.15					0.17 - J	1.8 - J	<6.0		<0.13	<15			<0.15	<0.15	<0.15
Dichlorofloromethane	75-71-8	NA	<2	<0.31	<2000	<62	<20	<0.31		0.59 - J	<2	<0.31	<2	0.81 - J					<0.31	<0.62	<12		<0.31	70 - J			<0.31	<0.31	<0.31
Trans 1,2-DCE	156-60-5	140 or 100	<2	<0.15	<2000	<30	<20	<0.15		<0.15	<2	0.89 - J	<2	<0.13					<0.15	<0.30	<6		<0.15	33 - J			<0.15	<0.15	<0.15
1,1-DCA	74-34-3	NA	<2	<0.22	<2000	<44	<20	<0.22		2	<2	<0.13	<2	0.50 - J					<0.22	8.2	17 - J		<0.21	95 - J			<0.22	<0.13	<0.13
Cis-1,2-DCE	156-60-2	14 to 70	<2	<0.15	<2000	2000	<20	<0.15		<0.15	<2	4	<2	1.60					<0.17	7.9	<6		<0.15	1900			<0.15	<0.22	<0.22
1,3,5-Trimethylbenzene	108-67-8	NA	<2	<0.16	<2000	<32	<20	<0.16		<0.16	<2	<0.16	<2	<0.16					<0.16	0.63 - J	<6.4		<0.16	<16			<0.16	<0.16	<0.16
Chlorobenzene	108-90-7	100	<2	<0.17	<2000	<34	<20	<0.17		<0.17	<2	<0.17	<2	<0.17					0.49 - J	<0.34	<6.8		<0.17	<17			<0.17	<0.17	<0.17
Chloroform	67-66-3	3.5	<2	<0.16	<2000	<32	<20	<0.16		0.24 - J	<2	<0.30	<2	<0.16					<0.32	<0.32	<6.4		<0.16	<16			0.60 - J	<0.16	<0.16
Ethylbenzene	100-41-4	700	<2	<0.16	<2000	<32	<20	<0.16	Dry Well - No Sample	<0.16	<2	<0.16	<2	<0.16	Dry - No Sample	Dry - No Sample	Not Installed - on Waste Connections Property	Not Installed - on Waste Connections Property	<0.16	2.0	<6.4	Dry - No Sample	<0.16	<16	Dry - No Sample	Dry - No Sample	<0.16	<0.16	<0.16
Isopropylbenzene	92-82-8	NA	<2	<0.19	<2000	<38	<20	<0.19		<0.19	<2	<0.19	<2	<0.19					<0.19	0.75 - J	<7.6		<0.19	<19			<0.19	<0.19	<0.19
4-Isopropyltoluene	99-87-6	NA	<2	<0.20	<2000	<40	<20	<0.20		<0.20	<2	<0.20	<2	<0.20					0.37 - J	0.68 - J	<8.0		<0.20	<20			<0.20	<0.20	<0.20
4-Methyl-2-pentanone (MIBK)	99-87-6	NA	<2	<0.98	<2000	<200	<20	<0.98		<5.0	<2	<0.98	<2	<0.98					0.98 - J	<2.0	<39		1.9 - J	<98			<5.0	<0.98	<0.98
2-Butanone (MEK)	78-93-3	NA	<2	<2.0	526000	<400	<20	<2.0		3.9 - J	<2	<2.0	<2	<2.0					<2.0	<4.0	<80		<2.0	<200			<2.0	<2.0	<2.0
1,1,1-TCA	71-55-6	14,000 or 200	<2	<0.16	<2000	<32	<20	<0.16		<0.16	<2	<0.27	<2	<0.16					<0.16	<0.32	<6.4		<0.16	<16			<0.16	<0.16	<0.16
Methlyne Chloride	75-09-2	5.6 or 5	<2	<0.32	<2000	<64	<20	<0.32		<0.32	<2	<0.32	<2	<0.32					<0.32	<0.64	26 - J B		<0.32	<32			0.89 - J B	<0.32	<0.32
Naphthalene	91-20-3	140	<2	<0.22	<2000	<44	<20	<0.22		<0.22	<2	<0.22	<2	<0.22					<0.22	2.7	<8.8		<0.22	<22			<0.22	<0.22	<0.22
N-Propylbenzene	103-65-1	NA	<2	<0.16	<2000	<32	<20	<0.16		<0.16	<2	<0.16	<2	<0.16					<0.16	0.63 - J	<6.4		<0.16	<16			<0.16	<0.16	<0.16
Trichloroethlene (TCE)	79-01-6	2.8 to 5	<2	<0.24 - J	<2000	3600	<20	0.33 - J		0.29 - J	<2	11	<2	0.60 - J					<0.16	<0.40	1500		<0.16	3200			<0.20	<0.20	<0.20
Toluene	108-88-3	560 to 1,000	<2	<0.17	68000	<34	1190	0.17 - J		<0.17	<2	<0.17	<2	<0.17					0.17 - J	5.9	<6.8		<0.17	<17			<0.17	0.17 - J	<0.20
Tetrachloroethylene (Perc)	127-18-4	17 or 5	<2	<0.20	<2000	<40	<20	<0.20		<0.20	<2	4.7	<2	0.55 - J					<0.20	<0.40	<8.0		<0.20	<20			<0.20	<0.20	<0.20
Tetrahydrofuran (THF)	109-99-9	6300	<2	<2.0	<2000	<410	<20	<2.0		<0.2	<2	18	<2	<2.0					<2.0	61	99 - J		<2.0	530 - J			<2.0	<2.0	<2.0
Vinyl Chloride	75-01-4	0.023 to 2	<2	<0.10	<2000	<20	<20	<0.10		<0.10	<2	1.3	<2	2					<0.1	21	<4.0		<4.0	300			<0.10	<0.10	<0.10
Xylenes - Total	1330-20-7	1,400 to 10,000	<2	<0.19	<2000	<38	<20	<0.19		<0.19	<2	<0.19	<2	<0.19					<0.19	3.8 - J	<7.6		<0.19	<19			<0.19	0.23 - J	<0.19
1,2 DCE	107-6-2	7	<2	<0.13	<2000	2000	<20	<0.13		<0.13	<2	5	<2	<0.13					<0.13	<0.13	<0.13		<0.13	1900			<0.13	<0.13	<0.13
Remaining VOC's are ND			<2	<0.20	<2000	<38	<20	<0.20		<0.19	<2	<0.2	<2	<0.20					<0.20	<0.20	<6		<0.2	<20			<0.2	<0.2	<0.2
SOC's (Method 8270) ug/l																													
1,4 - Dioxane	123-91-1	0.35	<2	<2	80	67	<2			11	<2		<2						12	64	41		<2	35			<2	<2	<1.6
Benzo(g,h,i)perylene	191-24-2	NA	<2	<2	<2	<2	<2			<2	<2		<2						<2	<2	<2		<2	23			<2	<2	<2
Benzoic Acid	65-85-0	NA	<20	<20	70.0	<20	<2	Laboratory Missing Sample - not analyzed		<20	<20	Laboratory Missing Sample - not analyzed	<20	Laboratory Missing Sample - not analyzed					<20	<20	<20		<20	<20			<20	<20	<20
Benzyl alcohol	100-51-6	NA	<2	<2	15.0	<2	<2		Dry Well - No Sample	<2	<2		<2		Dry - No Sample	Dry - No Sample	Not Installed - On Waste Connections Property	Not Installed - On Waste Connections Property	<2	<2	<2	Dry - No Sample	<2	<2	Dry - No Sample	Dry - No Sample	<2	<2	<2
Bis(2-ethylhexyl) phthalate	117-81-7	6.0	<4	<4	<3	54	<2			<4	<4		<4						<4	<4	<4		<4	<4			<4	<4	<4
Di-n-octyl phthalate	117-84-0	NA	<2	<2	<2	<2	<2			<2	<2		<2						<2	<2	<2		<2	5-J			<2	<2	<2
2-Methylphenol	95-48-7	NA	<2	<2	133	<2	9 - J			<2	<2		<2						<2	<2	<2		<2	6-J			<2	<2	<2
Indeno(1,2,3-cd)pyrene	193-39-5	NA	<2	<2	<2	<2	<2			<2	<2		<2						<2	<2	<2		<2	10.00			<2	<2	<2
Remaining SOC's are ND			<2	<2	<3	<3	<2			<2	<2		<2						<2	<2	<2		<2	<2			<2	<2	<2
Total Organic Carbon mg/l	7440-44-0	NA	10.5	15.6	568	31.5	42.6	47.1	No Sample	41.2	39.4	40.0	39.4	48.3	No Sample	No Sample	No Sample	No Sample	29.9	87.3	38.4	No Sample	151.0	1.0	No Sample	No Sample	6.7	15.9	20
Metals mg/l																													
Antimony	7440-36-0	0.006	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	<0.03	<0.03		<0.03	<0.03			<0.03	<0.03	<0.03
Arsenic	7440-38-2	0.010	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02					<0.02	<0.02	<0.02		<0.02	0.072			<0.02	<0.02	<0.02
Barium	7440-39-3	2.000	0.172	0.048	0.092	0.097	0.066	0.054		0.033	0.062	0.033	0.062	0.047					0.119	0.251	0.056		0.084	0.189			0.025	0.059	0.08
Beryllium	7440-41-7	0.004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		0.0006	0.01	<0.0005	0.01	<0.0005					<0.0005	<0.0005	0.0008		<0.0005	0.01			<0.0005	<0.0005	0.0006
Cadmium	7440-43-9	0.005	0.01	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	0.01	<0.003	0.01	<0.003					<0.003	<0.003	<0.003		<0.003	0.006			<0.003	<0.003	<0.003
Calcium	7440-70-2	NA	223	315	231	455	387	393		420	427	292	427	457					331	349	480		427	407			213	408	391
Chromium	7440-47-3	0.100	<0.005	<0.005	0.01	<0.005	<0.005	<0.005		<0.005	0.018	<0.005	0.018	<0.005					<0.005	<0.005	<0.005		<0.005	0.021			<0.005	<0.005	0.093
Cobalt	7440-48-4	NA	<0.002	0.003	0.01	0.004	0.01	0.003		0.003	0.030	0.012	0.030	0.020					0.021	0.061	0.007		0.014	0.058			<0.002	0.002	0.02
Copper	7440-50-8	1.000	0.025	0.006	0.021	0.007	0.008	0.007		0.009	0.109	0.027	0.109	0.011					0.016	0.006	0.014		0.023	0.113			0.009	0.011	0.067
Lead	7439-92-1	0.015	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	No Sample	<0.02	0.104	0.025	0.10	<0.02	Dry - No Sample	Dry - No Sample	Not Installed - on Waste Connections Property	Not Installed - on Waste Connections Property	<0.02	<0.02	<0.02	Dry - No Sample	<0.02	0.054	Dry - No Sample	Dry - No Sample	<0.02	<0.02	<0.02
Magnesium	7439-95-4	NA	110	92.8	256	118	244	122		123	148	103	148	95.5					73.9	92.9	129		127	118			56	80.4	121.00
Mercury	7439-97-6	0.002	NA	<0.000033 - J	NA	<0.000030 - J	NA	<0.000027		0.000037 - J	NA	0.000092 - J	NA	0.00110					0.00058	0.0026	0.000043 - J		0.0010	0.0011			<0.000027	<0.000027	<0.000060-J
Nickel	7440-02-0	0.100	0.01	0.011	0.02	0.018	0.03	0.028		0.023	0.069	0.022	0.069	0.022					0.024	0.080	0.028		0.024	0.132			0.004	0.005	0.026
Potassium	7440-09-7	NA	9.66	4.84	10.5	27.0	21.6	16.9		19.9	21.9	9.67	21.9	16.5					24.5	33.3	28.9		25.7	23.6			17.0	24.6	24.60
Selenium	7782-49-2	0.050	<0.01	<0.01	<0.02	<0.01	0.502	0.203		0.463	<0.02	<0.01	<0.02	<0.01					<0.01	<0.01	<0.01		0.065	0.029			0.106	0.109	0.049
Silver	7440-22-4	0.050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	<0.005	<0.005		<0.005	<0.005			<0.005	<0.005	<0.005
Sodium	7440-23-5	NA	538	520	1600	1100	2120	2300		2600	612	1500	612	930					320	790	2200		1900	1300			500	920	2100
Thallium	7440-28-0	0.002	<0.2	<0.1	<0.2	<0.1	<0.2	<0.1		<0.1	<0.2	<0.1	<0.2	<0.1					<0.1	<0.1	<0.1		<0.1	<0.1			<0.1	<0.1	<0.2
Vanadium	7440-62-2	NA	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02	0.07	<0.02	0.07	<0.02					<0.02	<0.02	<0.02		0.020	0.082			<0.02	<0.02	0.021
Zinc	7440-66-6	5.00	0.086	0.070	0.060	0.069	0.083	0.069		0.029	0.693	0.178	0.693	0.334					0.159	0.216	0.068		0.053	0.275			0.283	0.075	0.169
Inorganic Compounds																													
Carbonate	3812-32-6	NA	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2					<2	<2	<2		<2	<2			6.70	<2	<2
Cyanide	74-90-8	0.20	NA	0.008 - J	NA	0.0020-JF1B	NA	<0.0002		<0.023 - J	NA	0.0022 - J	NA	0.011					0.024 - B	0.035 - B	<0.039 - J		<0.002	0.0016 - J			0.00026 - J	<0.0002	0.014-B
Bi-Carbonate	144-55-8	NA	631	698	1575	2004	472	647	Dry Well - No Sample	1464	1941	1010	1941	2236	Dry - No Sample	Dry - No Sample	Not Installed - On Waste Connections Property	Not Installed - On Waste Connections Property	1485	3264	1882	Dry - No Sample	1595	1135	Dry - No Sample	Dry - No Sample	778	738	1293
Nitrite+Nitrate	14797-55-8	10.0	0.369	0.876	<0.1	0.995	38.8	24.5		45.4	181	0.978	181	1.03					0.589	2.15	1.74		7.83	4.91			4.62	2.55	33.9
Sulfate	14808-79-8	NA	1160	1583	4640	3628	7100	7091		6880	5870	4651	5870	3000					1227	720	7672		5959	4462			9155	3907	6180
Sulfide	18496-25-8	NA	NA	<0.1	NA	<0.1	NA	<0.1		<0.1	NA	<0.1	NA	<0.1					0.69	1.39	<0.1		<0.1	<0.1			<0.1	<0.1	<0.1
Other Organics ug/l																													
Phenol	108-95-2	2100	<4	<4	<5	6 - B	<4	<4	Dry	<4	<4	<4	<4	<4	No Sample	No Sample	No Sample	No Sample	<4	<4	<4	No Sample	<4	<4	No Sample	No Sample	<4	<4	<6.8

ND - Not Detected - MDL Not Reported
NA - Not Analyzed or Not Applicable
J - the estimated value is between the MDL and PQL
B - the estimated value is between the MDL and PQL

Table 2 - Groundwater Quality Testing Results

FIGURES



Stratus Redtail Ranch
2259 County Road 5, Erie, CO

Site Location

Geosyntec consultants	Figure 1	12/5/2017
	DE0302	DRAFT

Document Path: E:\DRH_work\GIS\DE0302_stratus\2017\201712\mxd\work_plan_figures\version2\fig1_site_location.mxd

Stratus Redtail Ranch
2259 County Road 5, Erie, CO

Site Plan and Excavation Areas

Geosyntec consultants

Figure 2	12/5/2017
DE0302	DRAFT

Document Path: E:\DRH_work\GIS\DE0302_stratus\2017\201712\mxd\work_plan_figures\version2\fig2_site_plan_excav_areas.mxd

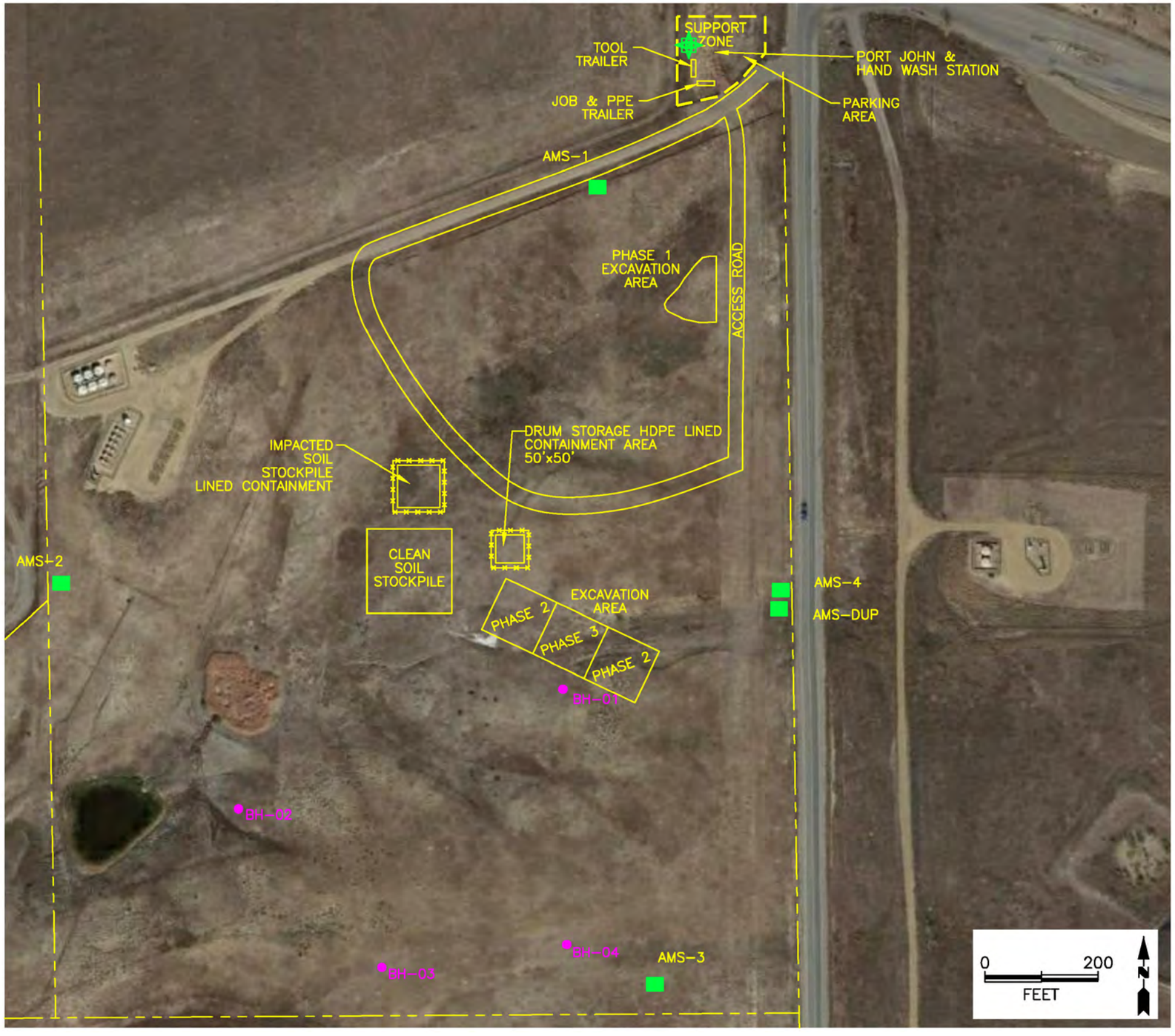
Stratus Redtail Ranch
2259 County Road 5, Erie, CO

Site Plan and EM Survey Areas

Geosyntec consultants

Figure 3	12/5/2017
DE0302	DRAFT

Document Path: E:\DRH_work\GIS\DE0302_stratus\2017\201712\mxd\work_plan_figures\version2\fig3_EM_areas.mxd



LEGEND

- AIR MONITORING STATION LOCATION
- METEOROLOGICAL STATION

Map provided by PSC including all layout.

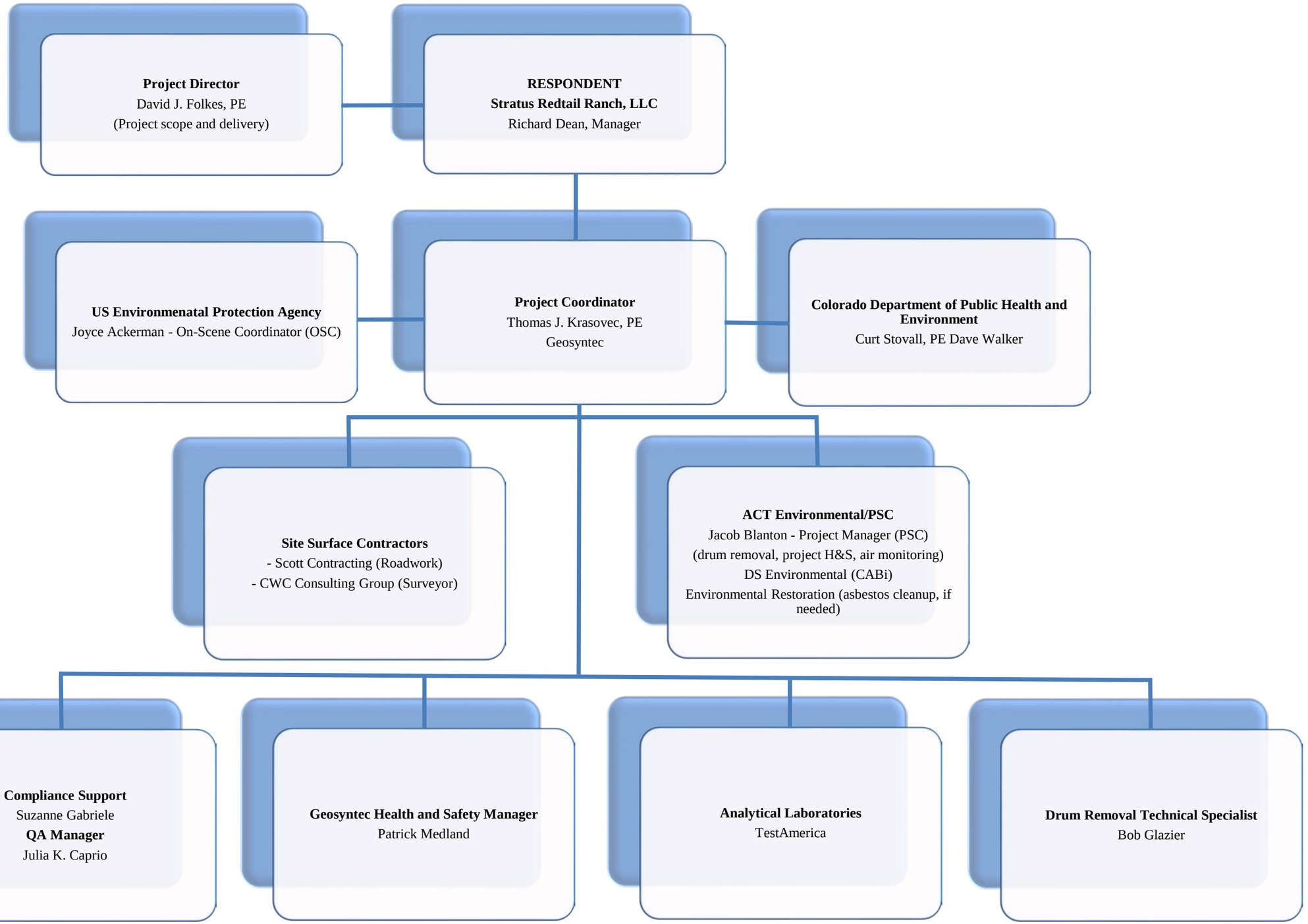
Neuhaser Landfill
2259 County Road 5, Erie, CO

Site Layout Map

Geosyntec consultants	Figure 4	11/17/2017
	DE0302	

Document Path: E:\DRH_work\GIS\DE0302_stratus_redtail_ranch\2017\201711\mxd\fig3_site_layout_map.mxd

Figure 5
Neuhauser Landfill Drum Removal - Project Team Organization Chart



ATTACHMENTS

Attachment A: Project Coordinator, Project Manager and Contractor Qualifications and Quality Management Plan.

Attachment B: Stormwater Management Plan

Attachment C: Health and Safety Plans

Attachment D: Sampling and Analysis Plan

Attachment E: Site Management Plan

Attachment F: Proposed Schedule

3012 Inspection Report

DATE OF INSPECTION:	September 13 1984
FACILITY AND LOCATION:	Arapahoe Chemicals, Incorporated 2855 Walnut Boulder, Colorado 80301 COD980717243
CONTACT:	Bob White (303) 938-6312 Ellen Arnold (303) 938-6434 Manager, Environmental Affairs
INSPECTORS:	Ned Noack, CDH
WEATHER CONDITIONS:	Cloudy, cool 55°F

Site History Arapahoe Chemical Company operated an organic chemical and pharmaceticals production facility at this site from 1948 until 1976 (see figure 1.)

1. The units of concern, five impoundments used for waste storage, were closed in 1971. Pits 1 and 2 were each about thirty-five feet by forty feet in plan. Pit 3 was about thirty-five feet square. Pit 4 was about twenty-five feet square. Pit 5 was about thirty feet by forty feet in plan. Impoundment depths (and thus, capacities) were unknown. Their approximate locations are shown on figure 2, which is a copy of a July 1965 plat of the plant site.

The impoundments held a variety of waste liquid and semisolid materials. The actual content of the waste materials is not known, although reportedly chromium was one component, as were various organic chemicals. If the waste streams of the present Syntex Chemicals facility offer any indication, the facility generated halogenated and nonhalogenated solvents, still bottoms from the recovery of those solvents, a number of discarded or off specification, listed commercial chemicals, and corrosive and ignitable hazardous wastes. According to Mr. White, the impoundments were concrete and monitored for leakage with six shallow monitor wells. There are no records for monitoring results or waste analysis. In 1971, the liquids and sludges, concrete rubble from impoundment liners, and some soils were removed to the Lyons Disposal facility. There are no records discussing the volume of waste materials removed. Pond sidewalls were collapsed back into the ponds prior to backfilling.

After facility operations were moved to the present site on North 55th Street in 1976, the old site was acquired by the Dayton-Hudson Corporation. The Target store and its parking area were constructed in 1979. As near as can be determined, four of the five ponds were once located under what is now the store's entrance (see figure 3). Also at that time, the Boulder and Left Hand Ditch was channelized into a culvert and diverted from its historic course.

Site Description

Before the site was developed by the Dayton-Hudson Corporation, it sloped gently eastward toward Boulder Creek with a grade of about one percent. The only surface water drainage was the Boulder and Left Hand Ditch, which meandered generally eastward between 28th and 30th Streets. Before it was channelized, the Ditch was downslope from, and within 150 feet of, four of the five impoundments. Groundwater was reportedly very near the ground surface. Now, the entire site is paved with asphalt or with the Target building itself. The Ditch flows into two 66-inch diameter concrete culverts just east of 28th Street. An approximate two foot diameter storm sever pipe also contributes flow to these culverts. The culverts trend east northeastward, at one percent grade, beneath the parking lot, and empty back into the original Ditch channel at the northeast corner of the Target Store, about five hundred feet west of 30th Street. Storm drainage from the parking areas returns eventually to the Ditch about two hundred feet west of 30th Street. Also, we estimate from site grading plans that about one half to two feet of fill was removed from the first four impoundments' vicinity before the site was paved. In the area of impoundment 5, about two feet of fill was added before paving.

Groundwater Well Inventory

A 1982 compilation of registered wells from the Colorado State Engineers' Office lists fifty eight shallow wells in Section 29, T1N, R70W. Within one mile of the old plant site, six upgradient and twenty-two downgradient wells are listed, based on an assumed groundwater gradient to the east or southeast toward Boulder Creek. The area of interest is shown on Figure 4.

An effort was made to verify the existence of the twenty-eight wells by contacting the well permit holders by telephone. Of the six upgradient wells, only one could be verified in this manner. Of the twenty-two downgradient wells, six are known to have been destroyed by the construction of the Target and May D and F stores on either side of Walnut between 28th and 30th Streets, including two wells registered to the Arapahoe Chemicals Company, at the plant site. There are no phone listings for the remaining sixteen well permittees, so their status remains unknown.

Based on our verbal verification efforts, we have identified three wells as potential groundwater sampling locations:

1. Mrs. Patricia Turner
   2556 Mapleton Street (upgradient)
   Boulder, CO
   Well Permit # 1-07-023625
   Installed - 1965
   Total Depth - 22'
   Depth to Water - 3'

2. National Construction Company
   3100 Pearl Street
   Boulder, CO
   Unpermitted (two wells)

All three of these wells are north of the Boulder and Left Hand Ditch and thus may not intercept groundwater that originated beneath the site. We were unable to verbally verify the presence of any wells east and south of the site, between the site and Boulder Creek.

Sampling Plan

As discussed above, the old plant site has been radically changed by construction. The public is protected from direct exposure to any remaining hazards by the presence of paved lots and sidewalks. The Ditch has been channelized beneath the area and is thus isolated from the old impoundments. Special equipment would be needed to penetrate the paving to reach the old impoundments. The Ditch was flowing at the time of our visit, and it receives storm runoff from areas west of 28th Street. The only groundwater wells identified in our verbal search are located north of the Ditch and may not intercept groundwater originating beneath the site. For these six reasons, no sampling was performed.

If it is decided that sampling is appropriate for this site, we recommend the following program:

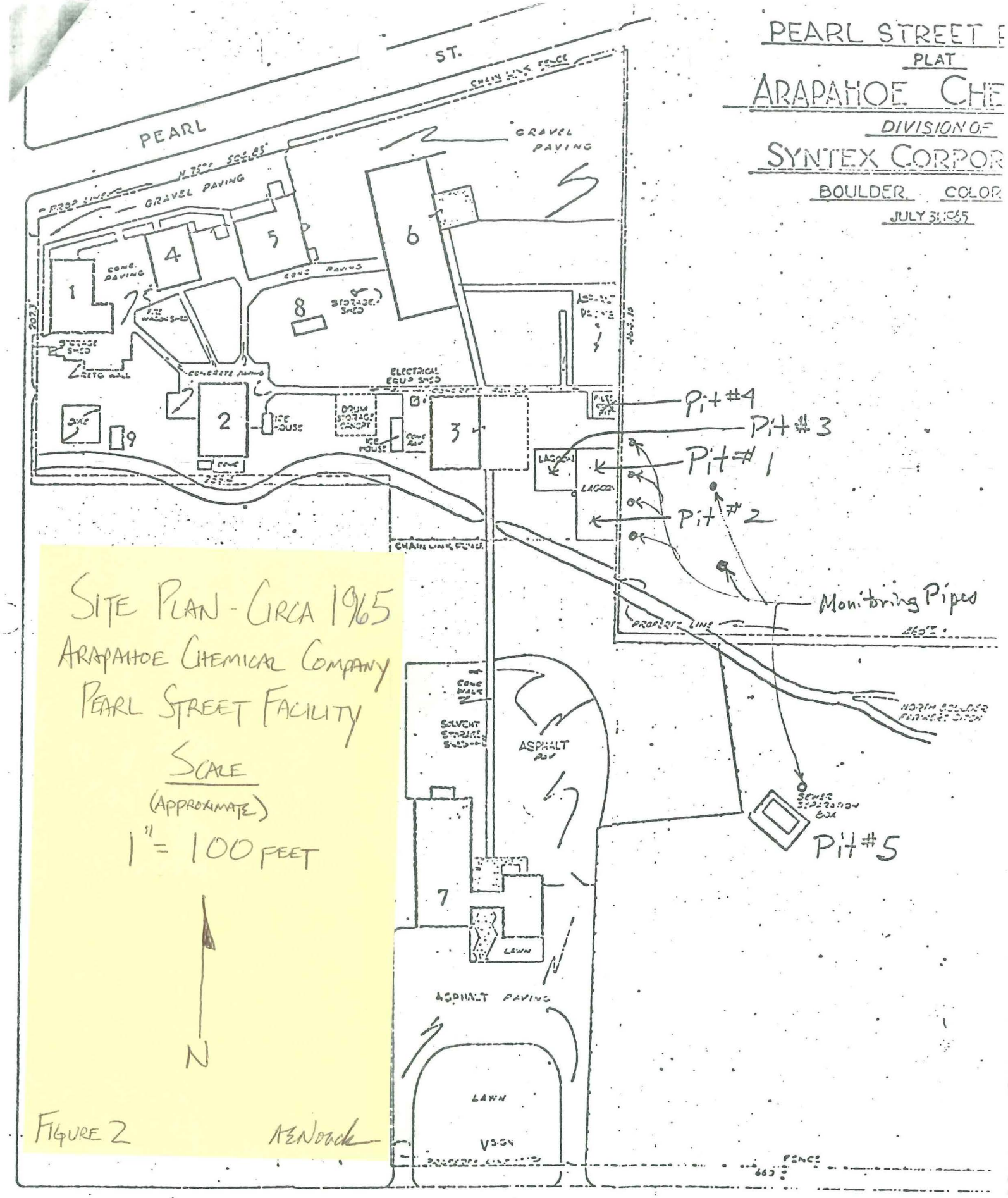
1. Complete field verification of groundwater wells east and south of the site. Prepare a piezometric surface map based on water levels in these wells, then choose and sample the appropriate wells.

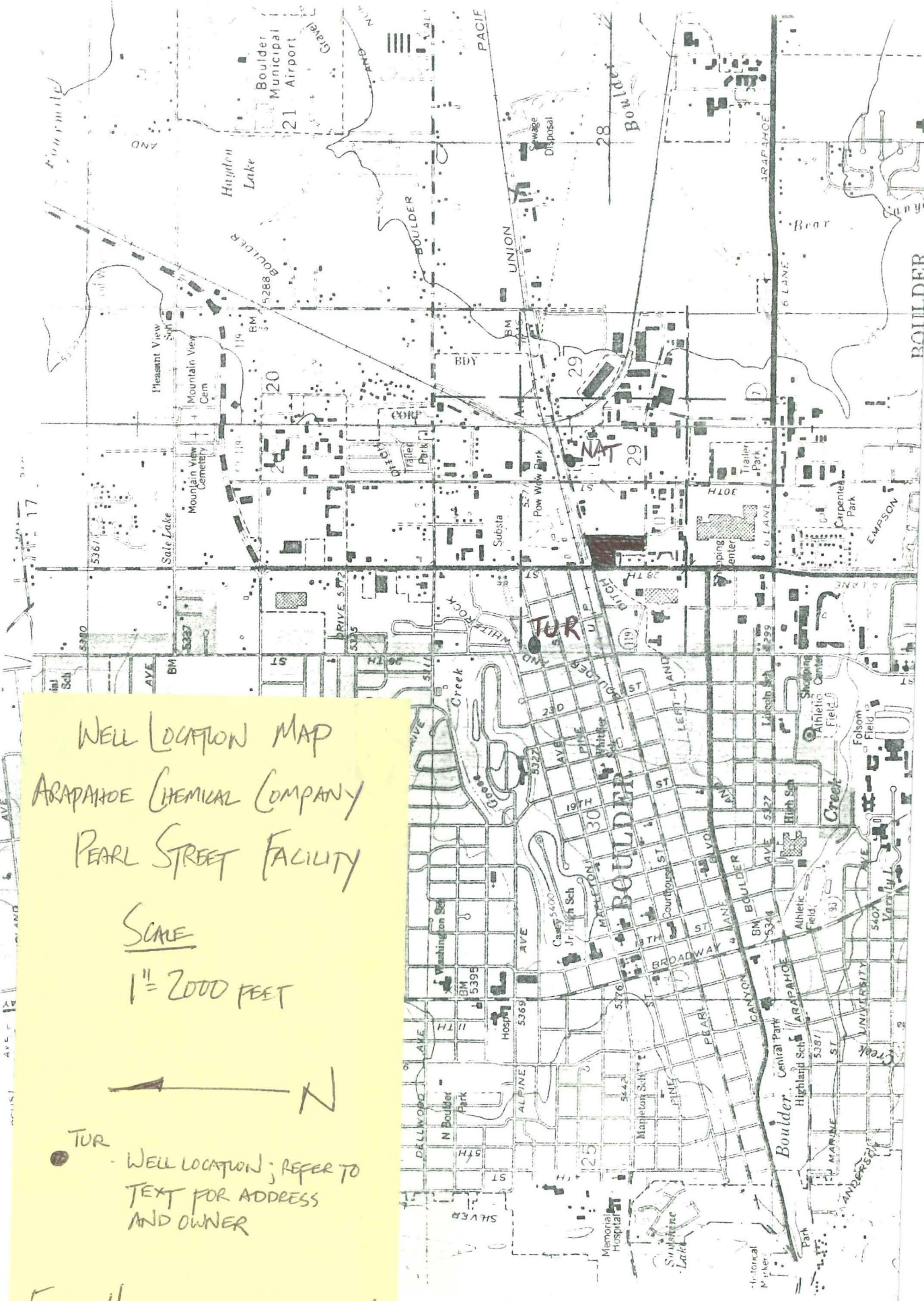
2. Conduct sediment sampling in the Ditch when it is not flowing.

3. If contaminants are detected in these samples, arrangements should be made with Dayton-Hudson Corporation to sample from holes drilled through paving or sidewalks. As an alternative, wells could be installed between 28th and 30th Streets, to evalute groundwater flow directions and quality.

SITE VICINITY MAP
ARAPAHOE CHEMICAL COMPANY
PEARL STREET FACILITY
SCALE
1" = 2000 FEET
N

FIGURE 1


PEARL STREET
PLAT
ARAPAHOE CHE
DIVISION OF
SYNTEX CORPOR
BOULDER COLOR
JULY 31, 1965
PEARL ST.
CHAIN LINK FENCE
GRAVEL PAVING
CONC. PAVING
STORAGE SHED
FIRE WAGON SHED
CONCRETE RETG WALL
ELECTRICAL EQUIP SHED
ICE HOUSE
DRUM STORAGE CANOPY
FLAT CAR
LAGOON
Pit #4
Pit #3
Pit #1
Pit #2
Monitoring Pipes
PROPERTY LINE
SEWER SEPARATION BOX
Pit #5
NORTH BOULDER FARMERS DITCH
SOLVENT STORAGE SHED
ASPHALT
ASPHALT PAVING
LAWN
FENCE
WALNUT ST.
SITE PLAN - CIRCA 1965
ARAPAHOE CHEMICAL COMPANY
PEARL STREET FACILITY
SCALE
(APPROXIMATE)
1" = 100 FEET
N
FIGURE 2
AENovack



WELL LOCATION MAP
ARAPAHOE CHEMICAL COMPANY
PEARL STREET FACILITY

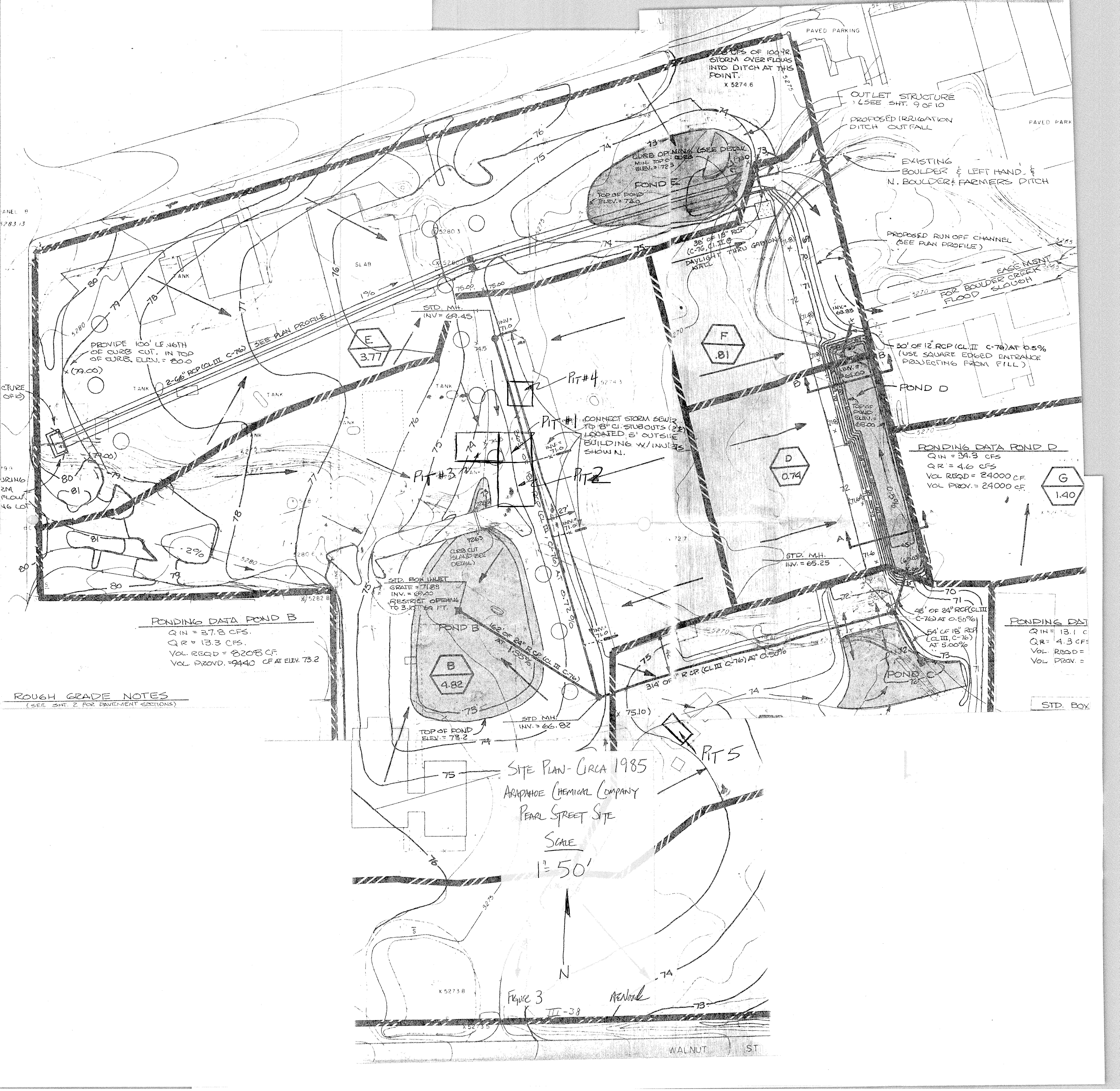
SCALE
1" = 2000 FEET

N

TUR - WELL LOCATION; REFER TO TEXT FOR ADDRESS AND OWNER

FIGURE 4

NENork


Site Plan - Circa 1985
Arapahoe Chemical Company
Pearl Street Site
Scale
1" = 50'
N
Figure 3
III-38
PAVED PARKING
PAVED PARK
CFS OF 100 YR. STORM OVERFLOWS INTO DITCH AT THIS POINT.
X 5274.6
OUTLET STRUCTURE (SEE SHT. 9 OF 10
PROPOSED IRRIGATION DITCH OUTFALL
EXISTING BOULDER & LEFT HAND & N. BOULDER & FARMERS DITCH
CURB OPENING (SEE DETAIL
TOP OF POND ELEV. = 73.0
POND E
38' OF 18" RCP (C-76, CL.II @
DAYLIGHT THRU GABION WALL
PROPOSED RUN OFF CHANNEL (SEE PLAN PROFILE)
EASEMENT FOR BOULDER CREEK FLOOD SLOUGH
INV. = 63.85
30' OF 12" RCP (CL.II C-76) AT 0.5% (USE SQUARE EDGED ENTRANCE PROJECTING FROM FILL)
POND D
TOP OF POND ELEV. = 68.00
PONDING DATA POND D
Q IN = 34.3 CFS
Q R = 4.6 CFS
VOL REQD = 24000 C.F.
VOL PROV. = 24000 C.F.
G 1.40
F .81
D 0.74
E 3.77
B 4.82
PROVIDE 100' LENGTH OF CURB CUT. IN TOP OF CURB. ELEV. = 80.0
2-66" RCP (CL.III C-76) SEE PLAN PROFILE
STD. MH. INV = 69.45
INV = 71.0
SLAB
TANK
1%
-2%
Pit #4
Pit #1
CONNECT STORM SEWER TO 8" C.I. STUBOUTS (2±) LOCATED 5' OUTSIDE BUILDING W/ INLETS SHOWN.
Pit #3
Pit 2
Pit 5
STD. BOX INLET GRATE = 71.85 INV. = 69.00 RESTRICT OPENING TO 3.10 SQ FT.
CURB CUT ISLAND (SEE DETAIL)
POND B
162' OF 24" RCP (CL III C-76) AT 1.35%
TOP OF POND ELEV. = 73.2
STD MH. INV. = 66.82
STD. M.H. INV. = 65.25
PONDING DATA POND B
Q IN = 37.8 CFS.
Q R = 13.3 CFS.
VOL. REQD = 8208 C.F.
VOL. PROVD. = 9440 CF AT ELEV. 73.2
ROUGH GRADE NOTES
(SEE SHT. 2 FOR PAVEMENT SECTIONS)
45' OF 24" RCP (CL III C-76) AT 0.50%
54' OF 18" RCP (CL III, C-76) AT 5.00%
314' OF " RCP (CL III C-76) AT 0.50%
POND C
PONDING DAT
Q IN = 13.1
Q R = 4.3 CFS
VOL. REQD =
VOL. PROV. =
STD. BOX
x 75.10
x 5273.8
WALNUT ST